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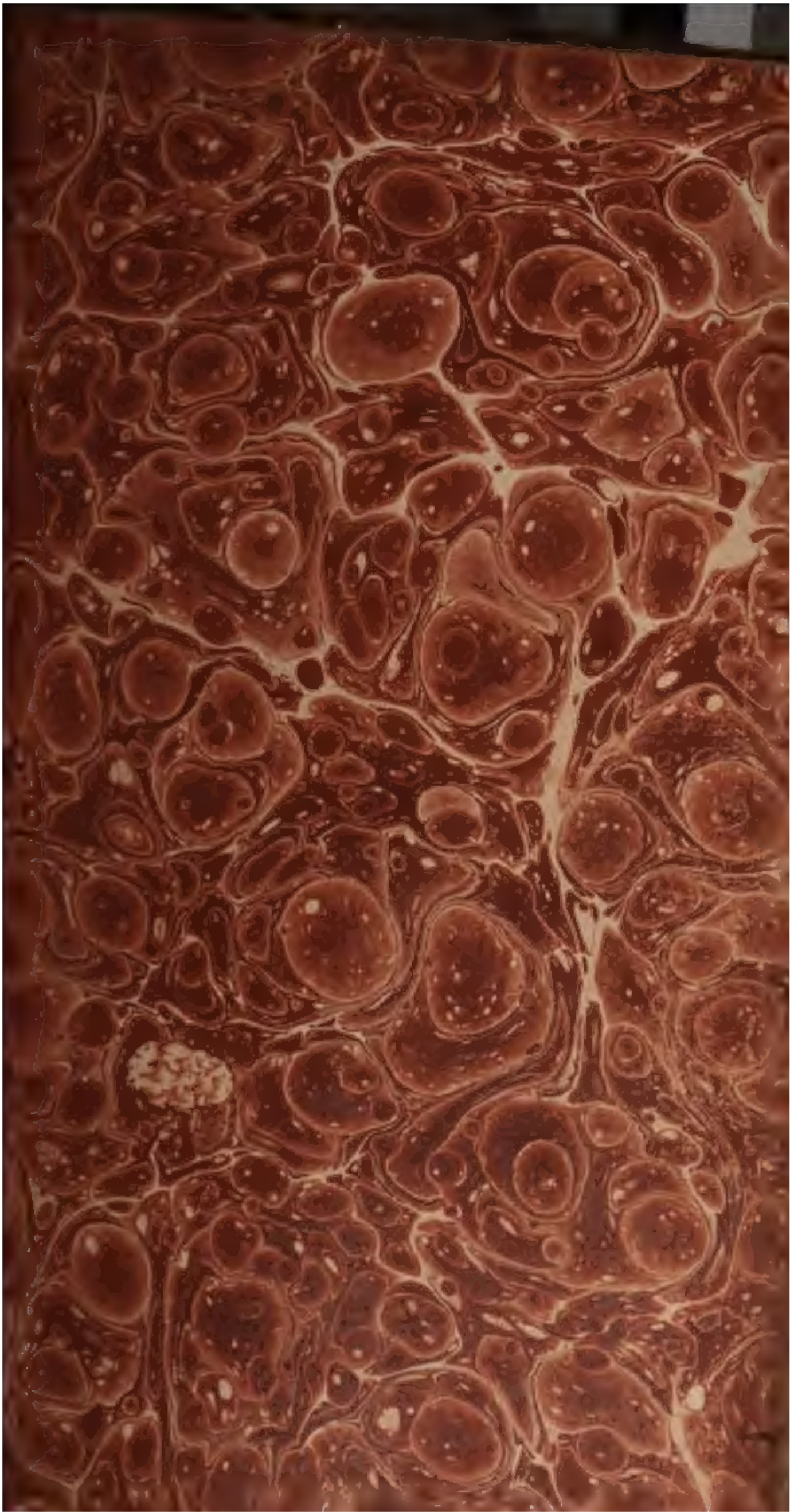
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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE
ACADEMIES OF STOCKHOLM, UPSAL, TURIN,
LISBON, LUND, BERLIN, PHILADELPHIA, AND
THE NAT. HIST. SOCIETY OF PARIS;
PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

—“VIRESCERE ACQUIRIT EUNDO.”—*Virg.*

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ENGLISH BOTANY

BY
JOHN GARDNER THURBERG

BRITISH PLANTS

Volume I

CONTAINING A DESCRIPTION OF THE
BRITISH PLANTS

AND A HISTORY OF THE
ART OF BOTANY

IN TWO VOLUMES

LONDON: Printed by J. JOHNSON, in Pall-mall, 1789.

1789

ORCHIS bifolia.

Butterfly Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

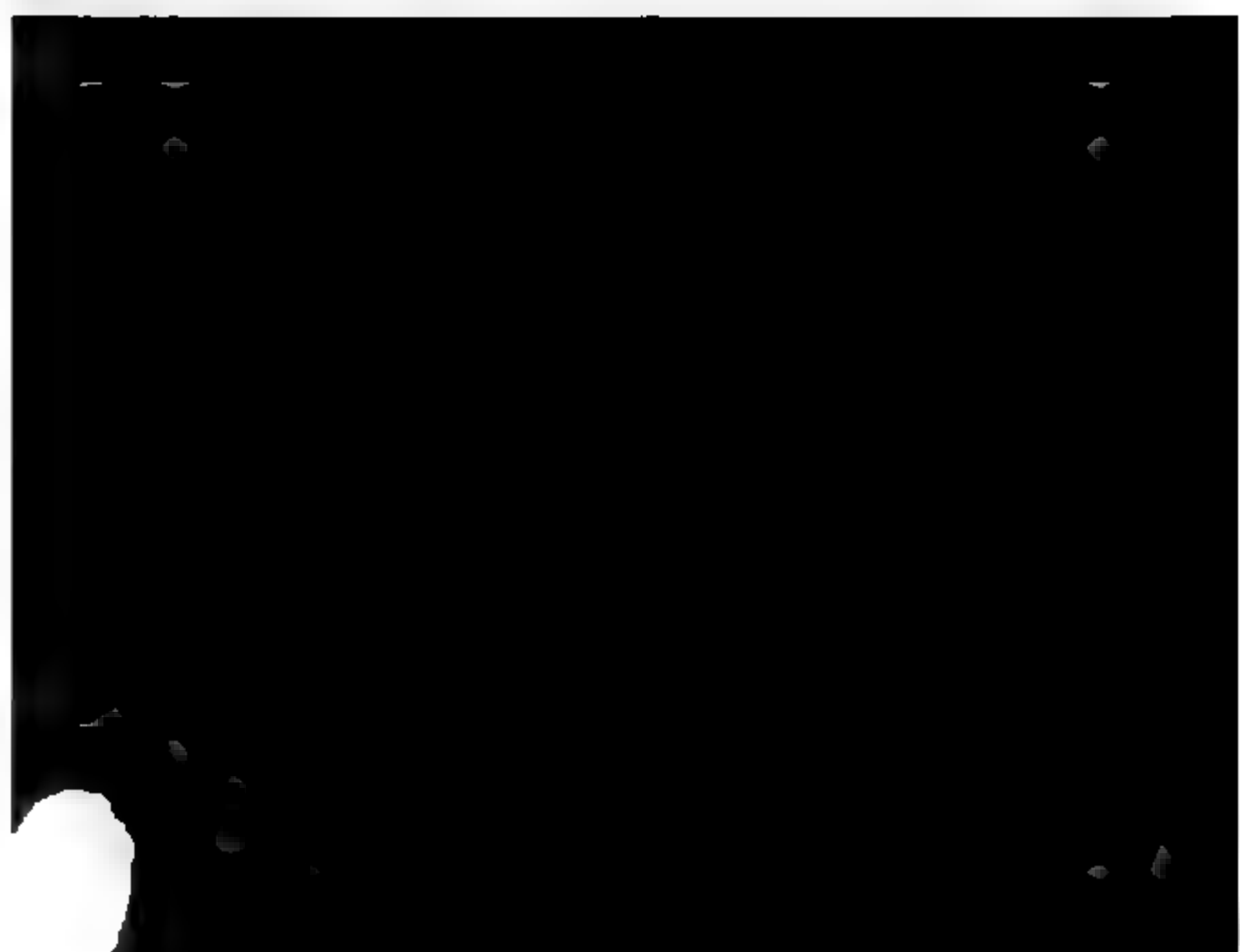
SPEC. CHAR. Bulbs undivided. Lip of the nectary lanceolate and entire, the horn very long. Outer petals spreading.

SYN. Orchis bifolia. *Linn. Sp. Pl.* 1331. *Huds. Fl. Ann.* 382. *Willd. Bot. Arr.* 967. *Rehb. Cantab.* 331.

Orchis hermaphroditica bifolia. *Raii Syn.* 380.

IN meadows and pastures throughout most parts of England, but seldom in great plenty. The flowers appear about the beginning of June, and are highly fragrant, especially in an evening.





ORCHIS pyramidalis.

Pyramidal Orchis.

GYNANDRIA Diandria.

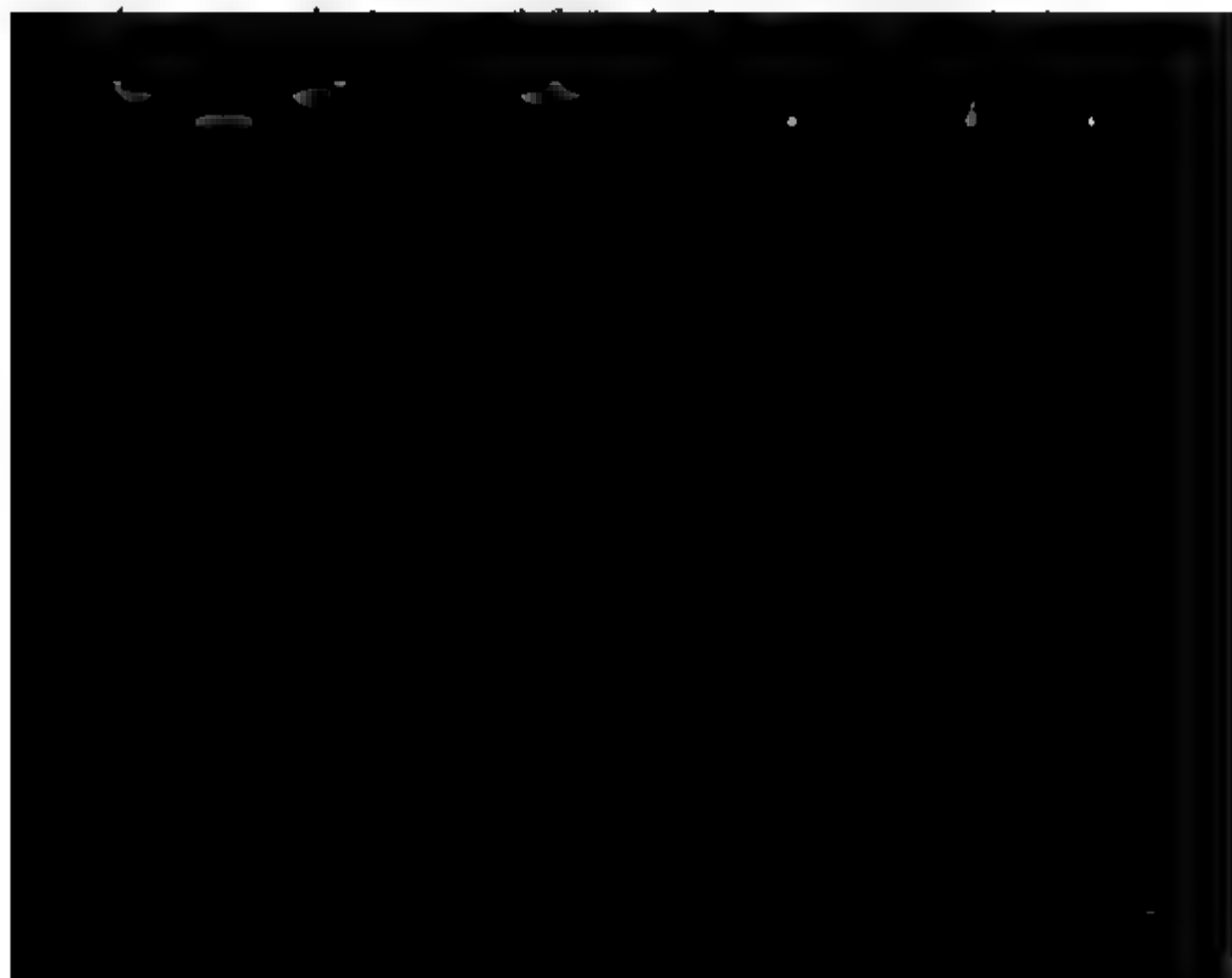
GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary in three equal segments, entire, with two protuberances, the horn long. Petals ovato-lanceolate.

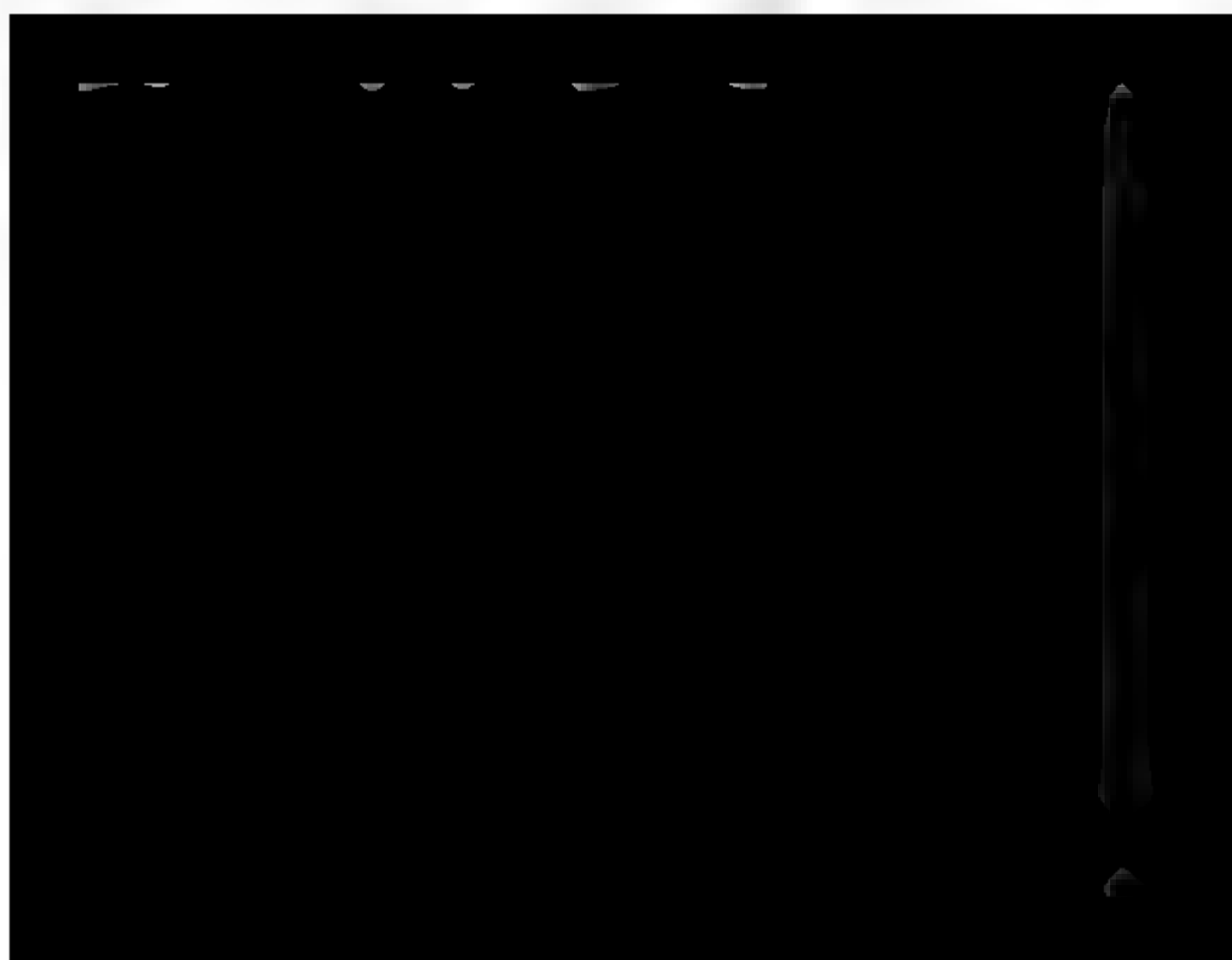
SYN. *Orchis pyramidalis.* *Linn. Sp. Pl.* 1332. *Huds. Fl. An.* 382. *With. Bot. Arr.* 969. *Relb. Cont.* 332.

O. purpurea spica congesta pyramidalis. *Raii Syn.* 377. *tab.* 18.

GROWS in meadows and pastures in a calcareous soil, more especially on chalky downs, flowering later than most others of the *Orchis* tribe, seldom before July. The whole herb is, as Dr. Stokes remarks, of a silky glossiness, and of an unspotted palish green. Spike dense, the buds erect; but as







ORCHIS Morio.

Green-winged Meadow Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs undivided. Lip of the nectary four-cleft, somewhat crenate; spur obtuse, ascending. Outer petals cohering, many-ribbed.

SYN. Orchis Morio. Linn. Sp. Pl. 1333. Sm. Fl. Brit. 920. Swartz. Orchid. 12. Huds. 383. With. 23. Hull. 194. ed. 2. 252. Reth. 343. Sibth. 10. Abbot. 192. Curt. Lond. fasc. 3. t. 59.

O. morio fœmina. Raii Syn. 377.

A NATIVE of meadows and pastures that are rather moist, flowering in May, or early in June.

Root of two nearly globose bulbs, one of which is a little removed from the other by its stalk. Leaves lanceolate, of a deepish, but rather glaucous, unspotted green; paler and shining underneath. Spike rather loose, of from 4 to 6 or 10 flowers, whose predominant colour varies from a very pale to a rather deep reddish purple*, but in all the varieties the green ribs of the outer petals, (or rather 3-leaved calyx), which mark this species, are equally strong. These leaves cohere over the 2 real petals within. The spur is curved upward, and obtuse. Lip of 2 deflexed parallel lobes, each of which is cloven and irregularly crenate, the central ridge between them white, dotted with purple. The common stalk, bractæas and germens are more or less tinged with the same hue.

We are persuaded of the propriety of terming the 3 outer leaves of the flower, in the Orchis tribe, a calyx, and the 2 inner ones petals, see *Introd. to Bot.* 461, according to which principle our descriptions may, at the pleasure of the reader, be reformed.

* See Mr. Sowerby's very ingenious *Elucidation of Colours*, tab. 5. f. 23.



Orchis sphegodes L.

1





ORCHIS mascula.

Early Purple Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary in four crenate lobes: spur blunt. Outer petals reflexed.

SYN. *Orchis mascula*. *Linn. Sp. Pl.* 1333. *Huds.* 383. *Witb.* 24. *Hull.* 194. *Relb.* 333. *Sibth.* 10. *Abbot.* 192. *Curt. Lond. fasc.* 2. t. 62. *Dicks. H. Sicc. fasc.* 11. 14. *Witb. Med. Bot.* t. 90.

O. morio mas foliis maculatis. *Rau Syn.* 376.

THIS is the first *Orchis* that appears in the spring, and one of the most common. Pastures, groves, and shady dells are adorned with its purple blossoms about the end of April or the beginning of May. Then the *Cardamine pratensis*, the *Saxifraga granulata*, or the Cowslip, combine with it to form many a rustic nosegay, while the *Adoxa*, diffusing its musky scent in vain, is trampled under foot, in the search for these more ostentatious flowers.

The root consists of two large oval bulbs, and is one of those





ORCHIS ustulata.

Dwarf Orchis.

GYNANDRIA Diandria.

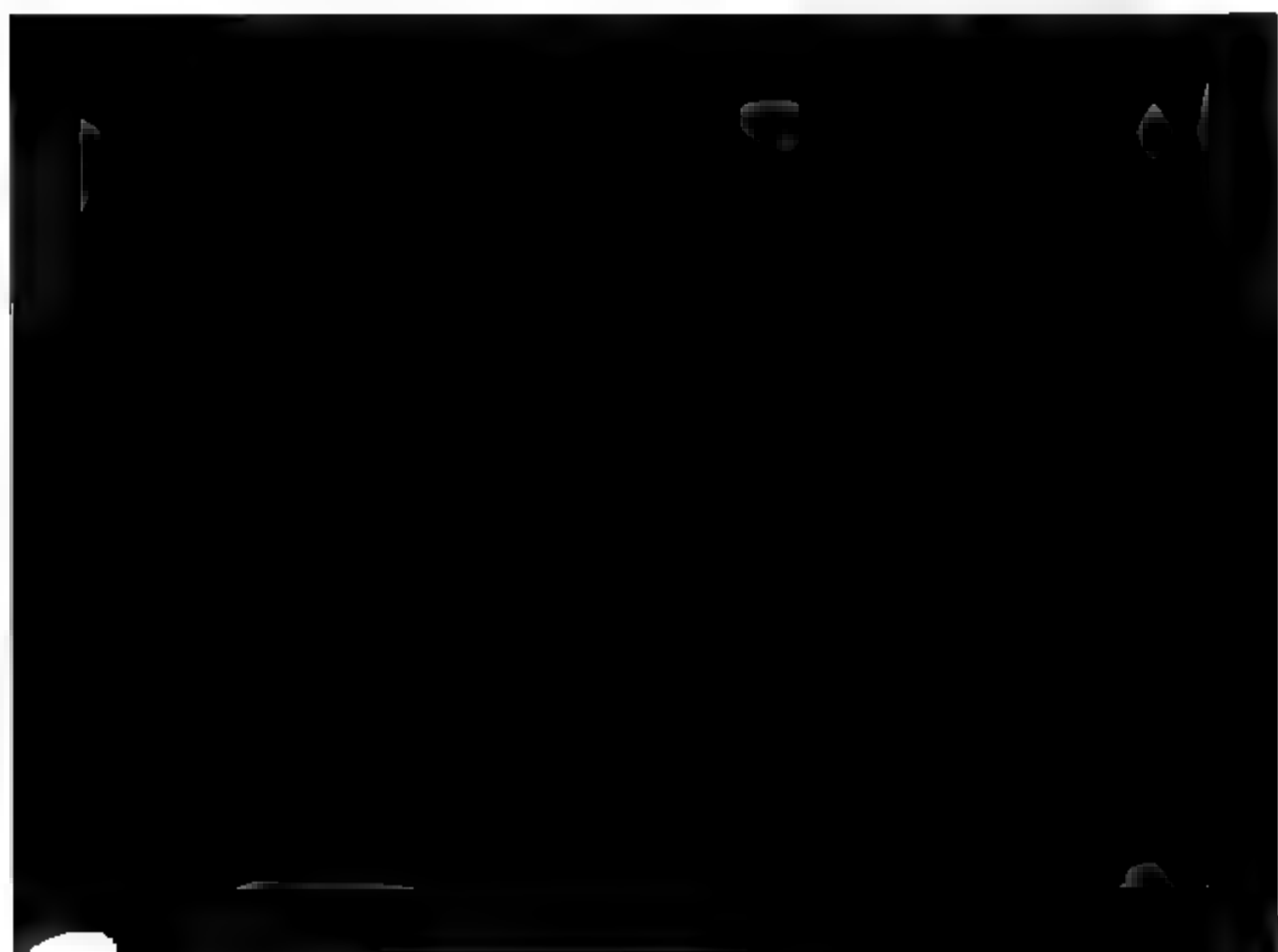
GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary four-cleft, rough with points; horn obtuse, petals distinct.

SYN. *Orchis ustulata*. *Linn. Sp. Pl.* 1333. *Huds. Fl. An.* 384. *Willd. Bot. Arr.* 973.

O. pannonica 4. *Raii Syn.* 377.

THE Little Orchis figured on this plate has obtained its trivial name of *ustulata*, from the remarkable colour of its flowers, which appear on a cursory view, and especially before they are fully expanded, as if scorched or blackened by heat. When





✓



[1878]

ORCHIS militaris.
Narrow-lipped Military Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs undivided. Lip of the nectary five-cleft, rough with points; its segments linear. Petals acuminate, confluent.

SYN. *Orchis militaris*. *Linn. Sp. Pl.* 1333. *Sm. Fl. Brit.* 922. *Swartz. Orchid.* 14. *Huds.* 384. *With.* 26. var. 3. *Hull.* 194. var. 3. *Sibth.* 10. *O. galea et alis ferè cinereis. Raii Syn.* 378.

WE have in v. 1. t. 16, figured the Broad-lipped Military Orchis, or *O. militaris* β , *Fl. Brit.* 923; and as the present plant, gathered near Dartford by Mr. Peet, F.L.S., is generally esteemed a distinct species, and is decided to be so by the greatest botanist in this tribe Professor Swartz, we think it essential to make the English student acquainted with it, especially as its beauty and rarity render it a general favourite. A frequent examination of these charming plants in the grassy walks about Rome, see *Tour on the Continent*, ed. 2. v. 2. 312, determined me to consider them as varieties; but possibly the acuminate calyx or petals, and the more or less linear lobes of the lip, may keep this distinct from t. 16, which must then retain the name of *fusca*, and of this the *moravica* of Swartz is not even a variety, while his *tephrosantos* is a very slight one of *O. militaris*. The bractæes vary in size.

All the varieties of these two species smell like Woodruff while drying. They flower with us in May, and love a chalky soil, being chiefly found in Kent and Oxfordshire. If treated as mentioned in *Intr. to Bot.* 110, they succeed well in a garden-pot. The reader is referred to p. 455 of the same work for the reasons which lead us now to refer all the *Orchideæ*, except *Cypripedium*, to *Gynandria Monandria*, they having properly but 1 anther.—According to the system of Swartz, *Satyrion hircinum*, *viride* & *album* are species of *Orchis*, and Nature confirms this arrangement.

1873







ORCHIS militaris.

Military Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs undivided. Lip of the nectary five-cleft, rough with points: horn obtuse. Petals confluent.

SYN. Orchis militaris. *Linn. Sp. Pl.* 1333. *Huds. Fl. Am.* 384. *Witb. Bot. Arr.* 974.

O. magna, latis foliis, galea fusca vel nigricante. *Raii Syn.* 378.

THERE are few of the English Orchises which can come in competition with the species here represented, in point of elegance. From a fancied similitude in the nectarium to the shape of the human body, it has obtained its popular title of Man-Orchis. In the colour of its flowers it varies considerably: the nectarium indeed generally preserves an uniformity of colour in most individuals; but the petals in some are of a much deeper tinge than in others, being frequently of a pale ash colour; at other times of a brownish cast, and in some individuals even of a deep brownish purple, which variety is usually called the blackish-flowered Man-Orchis. This species flowers in the beginning of June, and grows generally on dry and chalky soils, and in the neighbourhood of woods. It is much less common than several others of this genus. As there is another species of British Orchis which is generally known by the title of Man-Orchis (and which will hereafter be figured in the present work), we have thought it better to apply the term Military to this species, taken from the Latin name, which has been given on account of the resemblance which the upper part of the flower bears to a helmet.



v



1



ORCHIS latifolia.

Marsh Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

SPEC. CHAR. Bulbs somewhat palmate. Horn of the nectary conical: lip three-cleft. Bracteas double the length of the flowers.

SYN. *Orchis latifolia*. Linn. *Sp. Pl.* 1334. Sm. *Fl. Brit.* 924. Huds. 385. With. 26. Hull. *ed.* 2. 253. Relh. 334. Sibth. 11. Abbot. 192. Curt. *Lond.* fasc. 5. t. 65. *Fl. Dan.* t. 266.

O. palmata pratensis latifolia, longis calcaribus. *Raii Syn.* 380.

β. O. palmata palustris, tota rubra. *Dill. in Raii Syn.* 382.

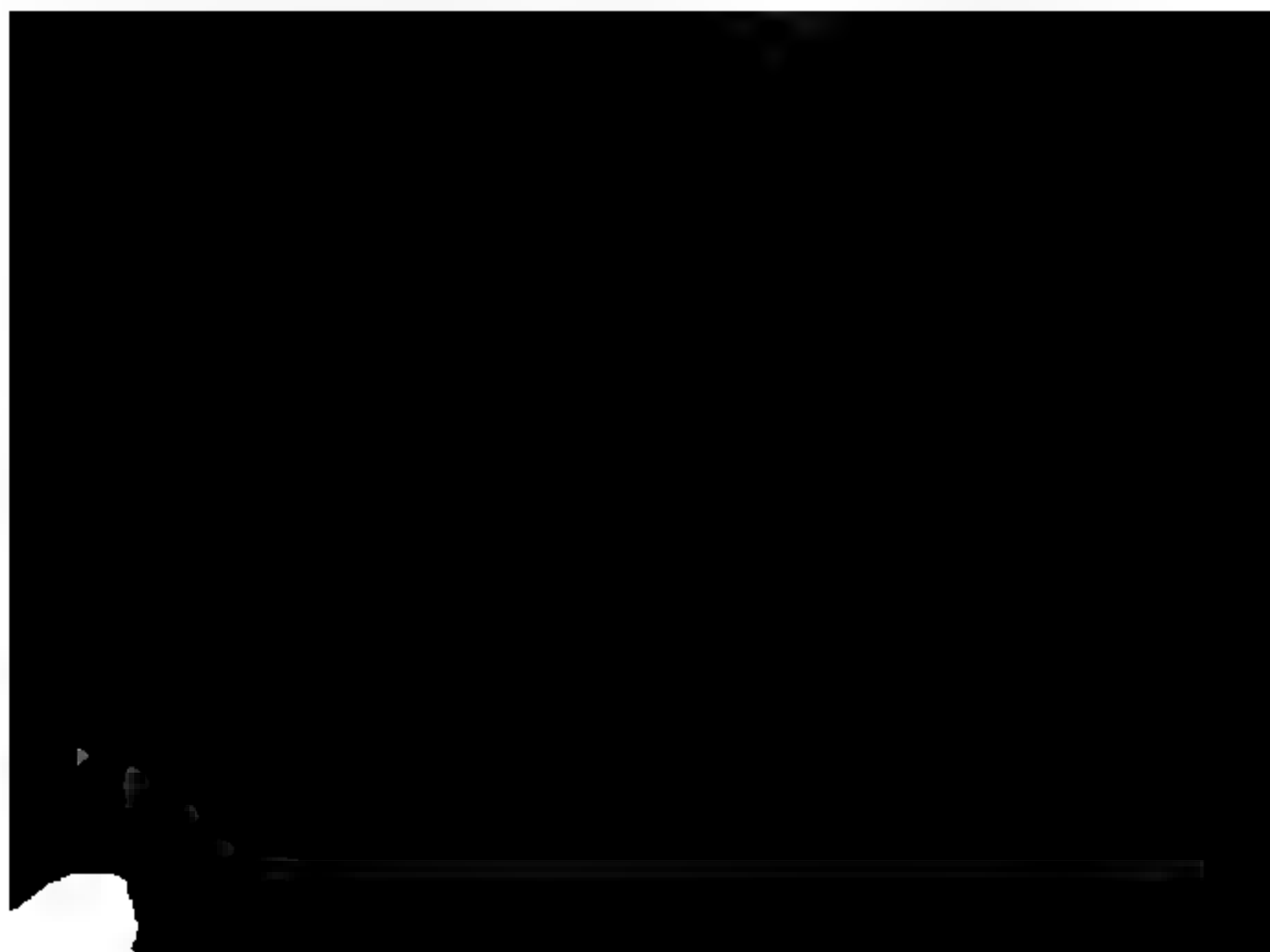
FREQUENT in marshy meadows, flowering in May and June.

The roots are imperfectly palmate, consisting of unequal awlshaped straightish lobes or portions. Stem hollow, leafy, from one to two feet high. Leaves sheathing, lanceolate, broadish, gradually smaller upwards, unspotted. Spike dense, many-flowered, pointed. Bracteas remarkably long, erect, leafy, sometimes coloured. Flowers varying in hue from a pale flesh-colour to a full rose or crimson, the side petals dotted, the middle of the lip elegantly variegated. Spur deflexed, somewhat shorter than the germen.

We adopt the variety β from Dillenius only. This species is certainly variable in size and colour, and, as Ray observes, is described in books several times over. It has been thought by some of our friends that two species, differing somewhat in their times of flowering, length of bracteas, and colour of the corolla, exist in England, but we have not been able to ascertain this point.



Fig. 1. *J. L. var. - 1*



1

ORCHIS maculata.

Spotted Palmate Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs palmate, spreading. Spur rather shorter than the germen: lip three-cleft, flat. Outer petals divaricated.

SYN. *Orchis maculata.* Linn. *Sp. Pl.* 1335. *Huds.* 385. *Wib.* 27. *Hull.* 195. *Relb.* 334. *Sibth.* 11. *Abbot.* 193.*O. palmata speciosiore thyrsis, folio maculato.* *Raii Syn.* 381.

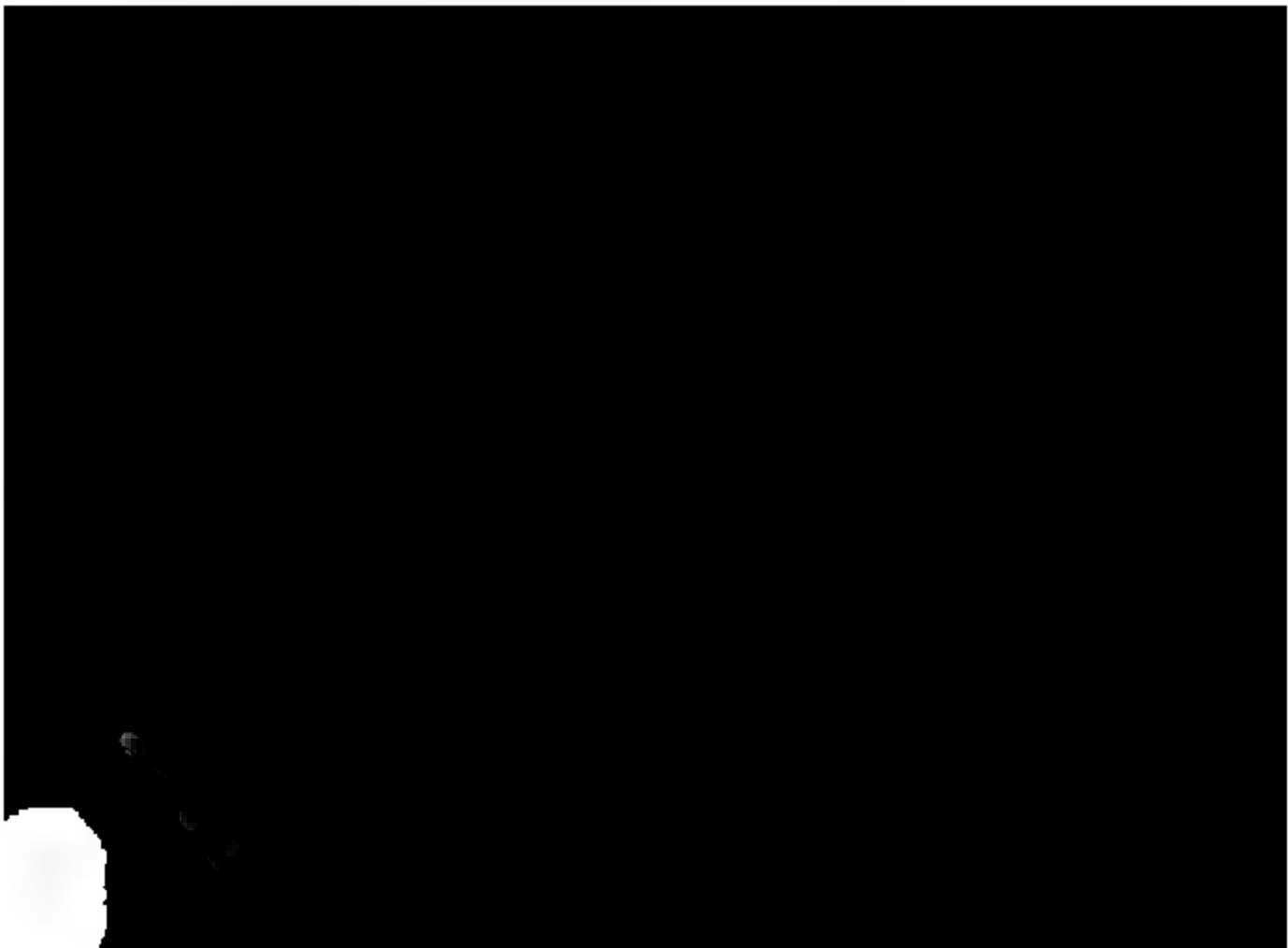
MOST common in meadows or moist pastures, but it occurs also in groves, and sometimes in dry barren ground, flowering towards the end of June or beginning of July.

The bulbs in this species are palmate as in *O. conopsea*. Stem leafy, simple, 12 or 18 inches high, round, solid. Leaves lanceolate, keeled, spotted on both sides with scattered purple blotches. Spike ovate, various in size. Bractæ scarcely longer than the germen, purplish. Flowers very variable in size, as well as in the purple lines and spots on the nectary. In general the ground of the whole flower is white, tinged with a purple blush, and the spots are deep purple, making a very elegant appearance when closely examined. The lip is flat, with two large rounded side-lobes, and an intermediate sharp small point. Stamina green.

The only species with which this can be confounded is *latifolia*, but that is easily known by the great length of its bractæ, and its uniformly green leaves.

Linnaeus in *Fl. Suec.* remarks that the bulb which is destined to bear the plant of next year is so heavy as to sink in water, while that from which the present herb springs is light enough to swim. This is plainly his meaning, which is not so clearly expressed in Dr. Withering's concise translation as usual with him.





ORCHIS conopsea.

Aromatic Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* a spur behind the flower.

SPEC. CHAR. Bulbs palmated. *Nectary* very slender and acute, longer than the germen; lip in three parts. Two of the petals spreading very much.

SYN. Orchis conopsea. *Linn. Sp. Pl.* 1335. *Huds. Fl. An.* 385. *Willd. Bot. Arr.* 977. *Relb. Cantab.* 335.

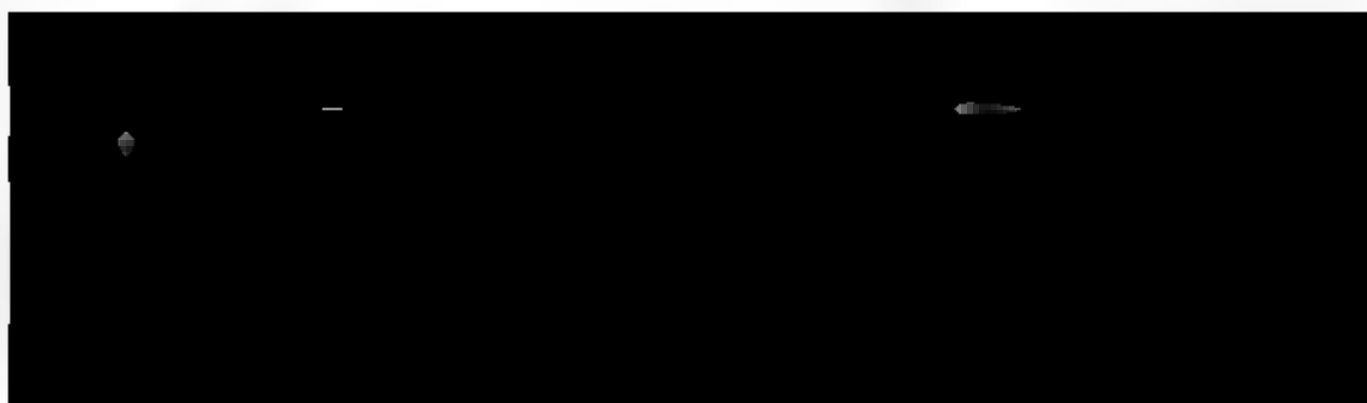
Palmata rubella cum longis calcaribus rubellis. *Raii Syn.* 381.

THIS Orchis is found in wet pastures and bogs, in June and July. Its flowers are highly fragrant, approaching in smell to the red clove pink; their colour varies from deep purplish red, to flesh colour, and even white. Its leaves are long, and narrower than those of any other English species.

The specific name *Conopsea* alludes to a fancied resemblance of the flowers of this plant to the genus of insects called *Conops* by Linnæus. In many other species of this tribe the flowers much more evidently resemble insects.



Chamaecyparis



SATYRIUM hircinum.

Lizard Satyrion, or Orchis.

GTNANDRIA Diandria.

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs round. Leaves lanceolate. Lip in three segments; the intermediate one very long, twisted, linear, abruptly jagged at the tip.

SYN. *Satyrium hircinum.* *Linn. Sp. Pl.* 1337. *Huds. Fl. An.* 386. *Witb. Bot. Arr.* 979.

Orchis barbata foetida. *Raii Syn.* 376.

IT is with peculiar pleasure we present the public with so very rare and curious a plant as that which is here figured, and which was drawn from a wild specimen obligingly communicated from the neighbourhood of Dartford by Mr. Lewin, well known by his fine work on British birds. Ever since the time of Ray it has been occasionally met with in that neighbourhood, though no where else in England; but the greediness of collectors has frequently endangered its total destruction, and in some seasons none can be found in flower. It is





89

Isotria medeolae





SATYRIUM viride.

Frog Satyrion, or Orchis.

GYNANDRIA Diadria.

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs palmated. Leaves oblong, obtuse. Lip linear, three-cleft, the middle segment smallest.

SYN. *Satyrium viride*. *Linx. Sp. Pl.* 1337. *Hudj. Fl. An.* 386. *Witb. Bot. Arr.* 981. *Relb. Cart.* 335.

Orchis palmata minor flore luteo-viridi. *Raii Syn.* 381.

IN meadows and pastures, especially in a gravelly or rocky soil, in most parts of England, flowering about May, June or July, but growing dispersed, so as to be rarely found in any quantity together. We were favoured with this specimen from near Luton Hoo, Bedfordshire, by Mr. Sibley, a gentleman who has paid much attention to the *Orchis* tribe.

Dr. Stokes has given an excellent and full description of this plant in the *Bot. Arr.* to which we have nothing to add, nor can the species be confounded with any other. The colour of the lip varying from yellowish green to brown, and its middle segment varying likewise in size, a common accident in this tribe, gave occasion to Mr. Hudson to describe a *Satyrium fuscum*, *Fl. An. ed.* 1. but on no sufficient grounds, as the brown colour and the equally divided lip by no means constantly accompany each other, witness our figure.





[505]

SATYRIUM albidum.

White Satyrion.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* an inflated roundish bag behind the flower.

SPEC. CHAR. Bulbs fasciculate. Leaves lanceolate. Lip of the nectary three-cleft, acute; the middle segment longest.

SYN. *Satyrion albidum*. Linn. Sp. Pl. 1338. Huds. 387. With. 31. Lightf. 519. Dicks. H. Sicc. fasc. 1. 15.

Orchis palmata thyrsos specioso, longo, dense stipato, ex viridi albente. Dill. in Raii Syn. 332.

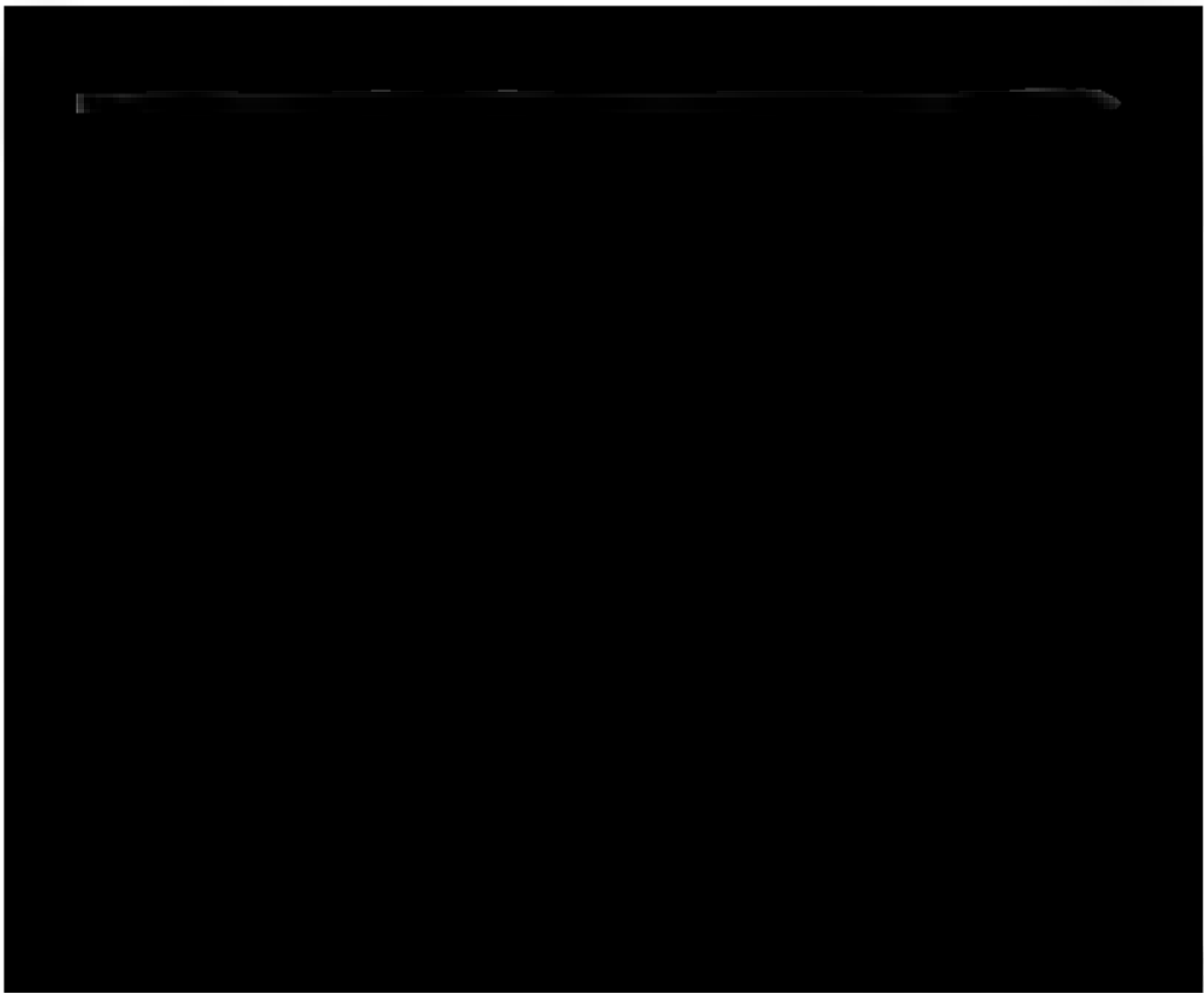
FRESH specimens of this rare plant were sent us in June last from Hafod, Cardiganshire, by Miss Johnes. It grows copiously on the elevated exposed grassy hills which surround that romantic place, as well as in similar situations in Scotland; nor have we ever observed it in moist meadows, as Hudson (after Dr. Richardson in Ray's Synopsis) mentions. Hence I have been led to suspect the propriety of this synonym, and whether the preceding *Orchis*, n. 23. which remains unnoticed by late authors, may not rather belong to the plant before us. It must be confessed, indeed, that the epithet "*odorata*" scarcely agrees with *Satyrion albidum*, but neither does "*thyrsos specioso*." I have had some idea of this n. 23. being the *Orchis sambucina*, which the Rev. Mr. Wood of Leeds thinks he once found near Snowden.

The root of *S. albidum* is thus explained by Mr. Sowerby, from the consideration of several specimens: *a* a central fibre; *b* one a little above it; *c c* a pair of fibres, one on each side; *d d* a pair of old bulbs, the origin of the present plant; *e e* a pair of bulbs for next season; *f f* a younger pair.

The stem is scarcely a foot high, roundish, leafy. Leaves sheathing, lanceolate, of a light green, rather glaucous beneath, the lowermost broadest and most obtuse. Spike of many small greenish-white flowers, almost inodorous, each of them accompanied by a lanceolate bractea rather longer than the germen. Petals concave, all nearly equal. Spur longer than in most of the genus, so as almost to make it an *Orchis* according to Linnæan rules, and it certainly has great affinity with several of that genus in other respects. Lip green, palmate, with three lobes, of which the middle one is larger, and sometimes blunter, than the others.

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SATYRIUM repens.

Creeping Satyrion.

GYNANDRIA Diandria.

GEN. CHAR. Nectary an inflated roundish bag behind the flower.

SPEC. CHAR. Roots fibrous, creeping. Leaves ovate, radical. Flowers leaning one way.

SYN. *Satyrium repens.* Linn. *Sp. Pl.* 1339. *Huds. Fl. An.* 387. *With. Bot. Arr.* 982. *Lightf. Fl. Sc.* 520. *f.* 22. bad. *Dicks. Dr. Pl.* 85.

ACCORDING to the custom we have hitherto adopted of beginning each volume with some peculiarly interesting plant, we here exhibit one of the most rare of the favourite Orchis tribe, for which we are obliged to James Brodie, Esq. the gentleman who discovered *Pyrola uniflora* (t. 146.) in Scotland, and communicated it to Mr. James Hoy, as Mr. Hoy himself has informed us since our account of that plant was published. This *Satyrium* grows in Alpine fir forests, not in "pastures and thickets." Our specimens were sent fresh from Scotland by the post, and came in perfectly good order, as plants of this tribe dry so very slowly.

The roots are perennial, truly creeping, not bulbous, very succulent, downy, running among moss, and attaching themselves to decayed fragments and leaves of fir in the manner of fungi. Leaves in tufts at the end of each runner, on broad sheathing footstalks, ovate, succulent, strongly 3- or 7-ribbed, and reticulated with transverse veins which are often brown, and the leaves are now and then prettily chequered with that colour. Stalks erect, 6 or 8 inches high, round, downy upwards, clothed with a few alternate sheathing bractes, and terminated with an erect spike of numerous pale flesh-coloured fragrant flowers, leaning one way, but turning a little spirally round the stalk; each being accompanied by a lanceolate, concave, coloured, downy bractea, longer than the germen, which also is clothed with viscid downiness, as well as the three broader external petals. Haller describes the flower as having only three petals, besides the nectary, which Lightfoot copies, having probably never seen the plant alive, for his plate is excessively faulty. Mr. Sowerby found two internal lanceolate petals (as in the figure) which, like those of *Orchis ustulata*, are very difficult to be detected in a dried specimen, being "glued as it were" to the upper one, which the others are not by any means, though Haller says they are. Perhaps that great naturalist might make slight notes in the field, and confide himself in copying them afterwards. Lightfoot's account is compiled from Haller's without acknowledgment. His whole book is nearly made up of such plagiarisms, and he is too often deservedly led astray.

29,





OPHRY S *Nidus avis.*

Bird's-nest Ophrys.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs in the form of fleshy clustered fibres. Stem clothed with scaly sheaths, without leaves. Nectary cloven.

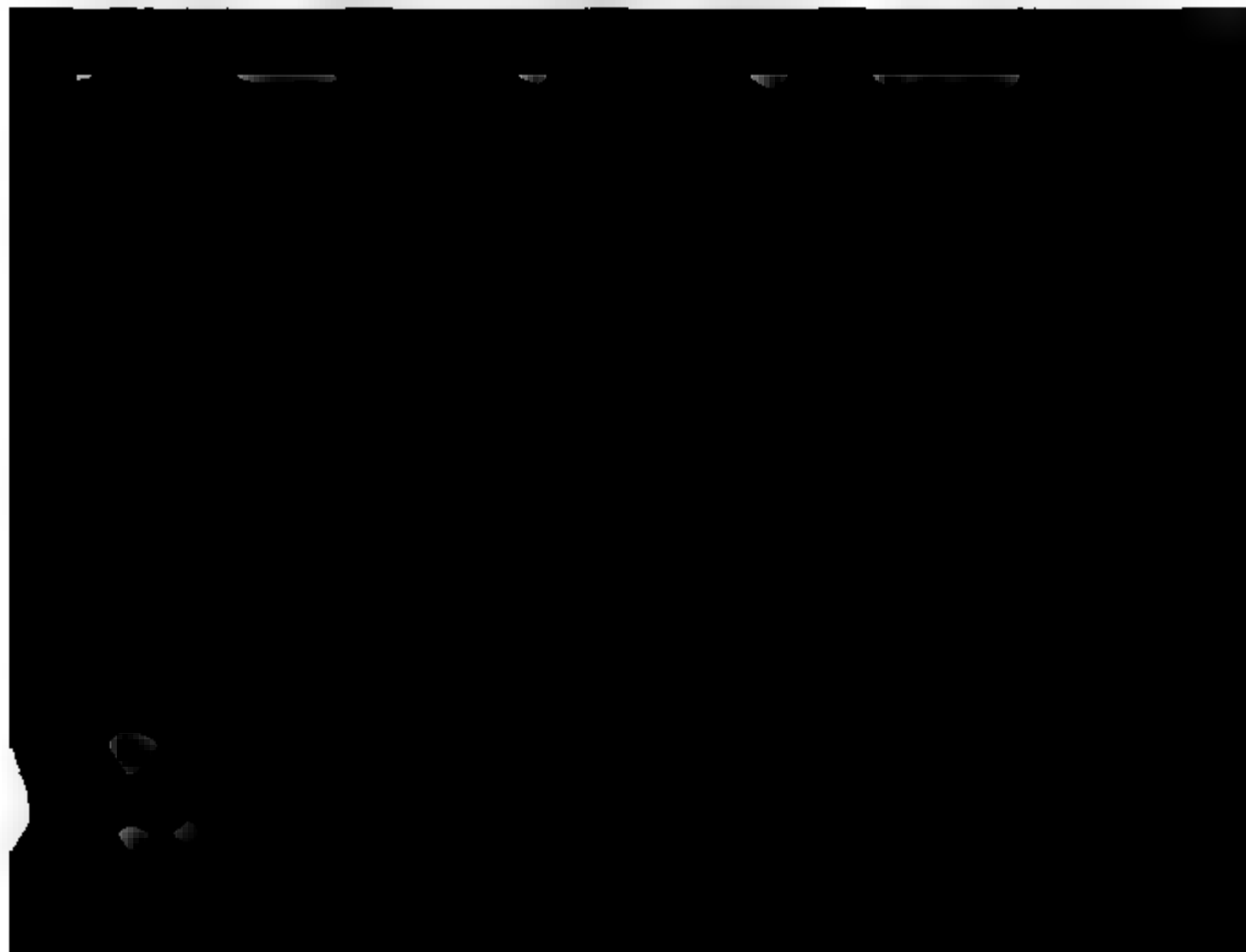
SYN. *Ophrys Nidus avis.* *Linn. Sp. Pl.* 1339. *Huds. Fl. An.* 388. *Witb. Bot. Arr.* 983. *Relb. Catalog.* 336.

Nidus avis. *Raii Syn.* 382.

THIS singular species of *Ophrys*, whose habit so nearly approaches the genus *Orobanche*, is probably like that genus







OPHRYS corallorrhiza.

Coral-rooted Ophrys.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Root branched, fleshy, zigzag, divaricated. Stem sheathed, without leaves. Lip of the nectary slightly three-lobed.

SYN. *Ophrys corallorrhiza*. Linn. *Sp. Pl.* 1339. Sm. *Fl. Brit.* 932. Huds. 388. With. 32. Hull. 196. *Lightf.* 523. t. 23. *Fl. Dan.* t. 451.

Corallorrhiza n. 1901. Hall. *Hist.* v. 2. 159. t. 44.

Cymbidium corallorrhizon. Swartz. *Act. Holm. ann.* 1800. 238.

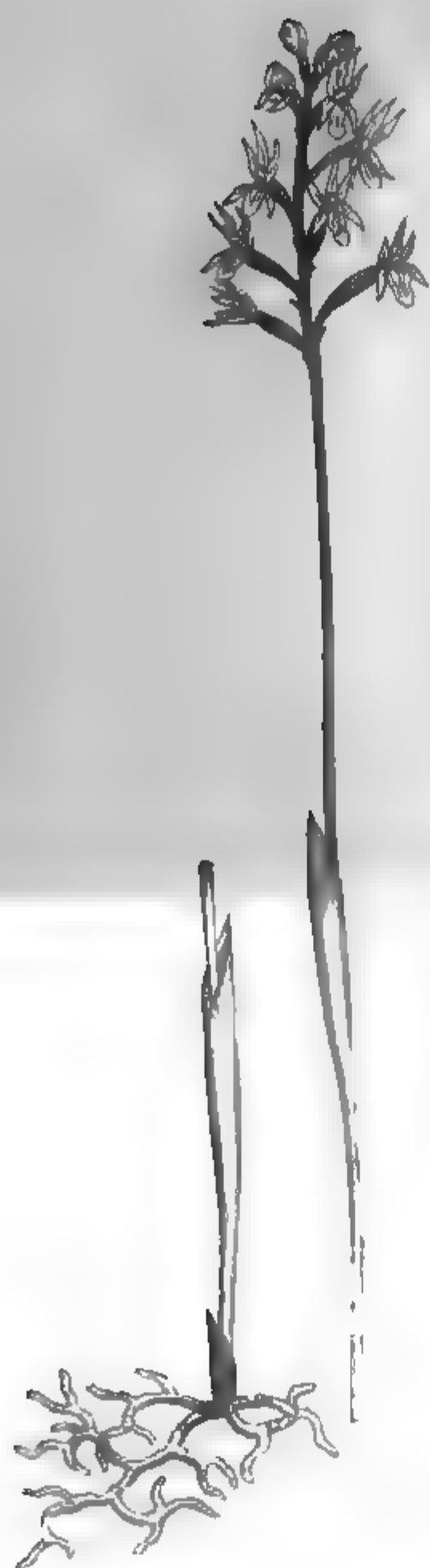
Dentaria minor. Ger. *em.* 1585.

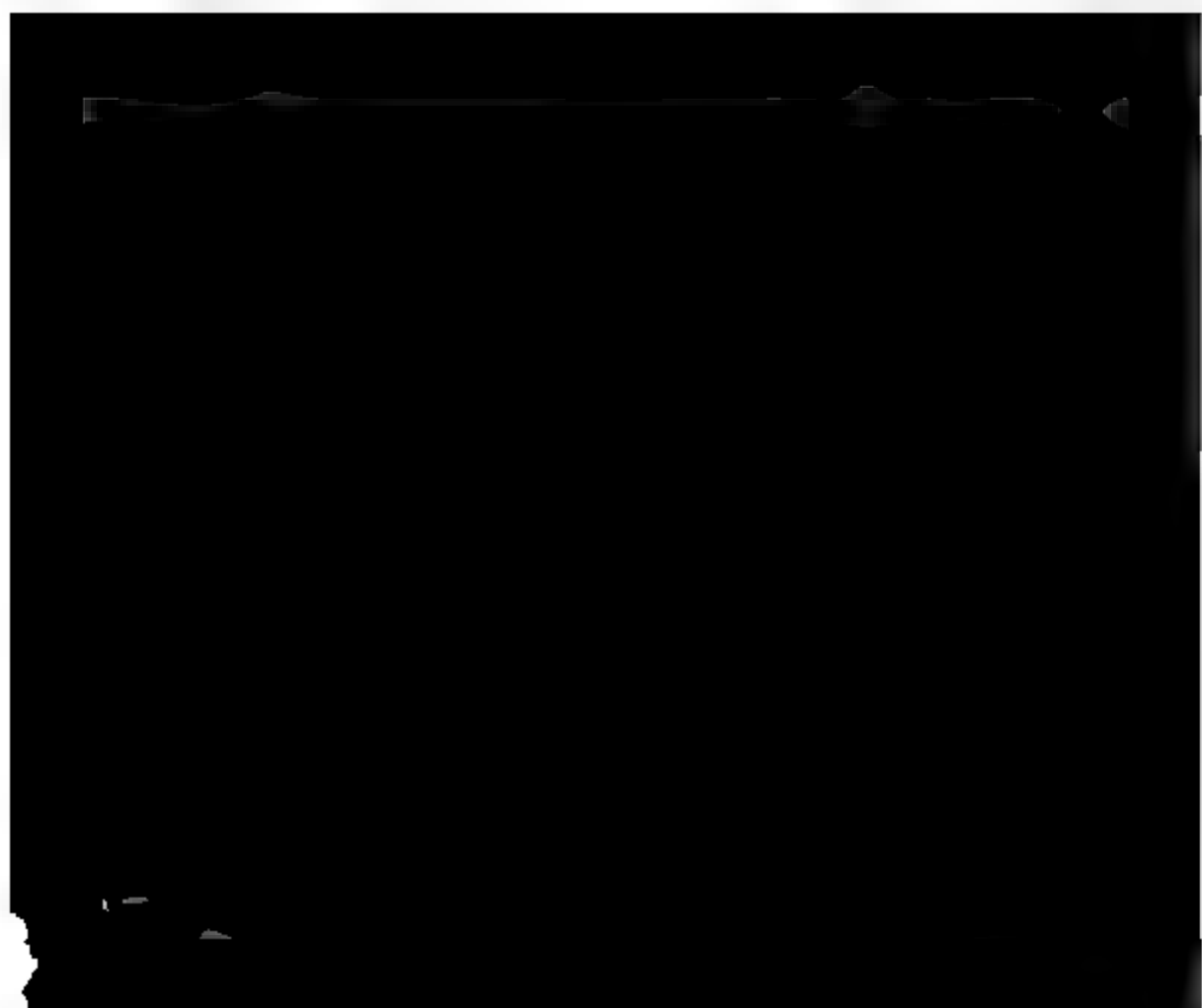
LIGHTFOOT, who first made this known as a British species, saw it only in one place, and there sparingly; "in a moist hanging wood, on the south side, near the head of Little Loch Broom, on the western coast of Ross-shire." We know not that any person has since met with it, till Mr. Thomas Bishop, to whom we are obliged for fresh specimens, found it in small quantities, in 1804 and 1805, in Methven wood 6 miles from Perth. It has not been observed in England, Wales or Ireland, though surely to be expected in the boggy alpine woods of the last-mentioned country. It is perennial, and flowers in July.

The root differs greatly from all other British plants of this family, being very much branched and divaricated, whitish, fleshy, somewhat downy. The stem is about a span high, simple, clothed with 2 or 3 alternate, cylindrical, greenish, swelling sheaths, which supply the place of leaves. Spike terminal, of a few flowers, each of which has a minute

at the base of its little stalk. Petals lanceolate, acute, a green rib; 3 of them erect; 2 spreading and ward. Lip ovate, furrowed, as long as the petal, notched on each side, in which last particular *Fl. Brit.* requires correction. The lid of the lip is notched and moveable.

2547





OPHRYS ovata.
Common Twayblade.

GYNANDRIA Diandria.

GEN. CHAR. Nectary consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Root of clustered fleshy fibres. A pair of elliptical leaves on the stem. Nectary linear, two-lobed.

SYN. *Ophrys ovata*. Linn. *Sp. Pl.* 1340. Sm. *Fl. Brit.* 932. Huds. 388. With. 34. Hull. 196. Relh. 347. Sibth. 12. Abbot. 195. Curt. *Lond. fasc.* 3. t. 60.

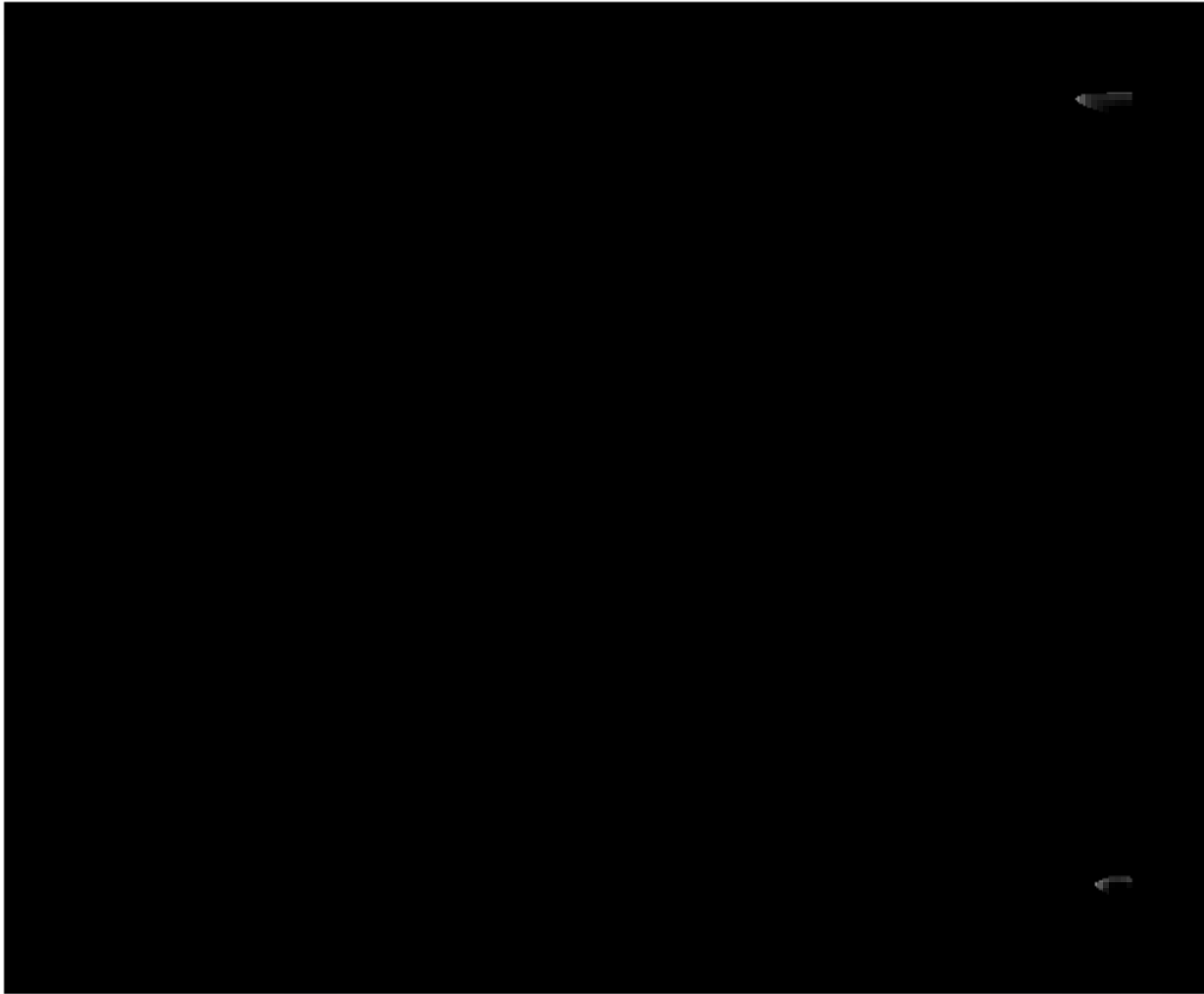
Epipactis ovata. Swartz. *Act. Holm. ann.* 1800. 232.
Bifolium majus, seu *Ophris major quibusdam*. Raii *Syn.* 385.

IN groves and pastures not unfrequent, flowering in June. Our specimen, gathered on the bushy hills above Matlock Bath, is rather smaller than the usual size of the plant in more moist situations.

The root is perennial, consisting of numerous simple fibres. Whole plant of a greenish cast. Stem a foot or 18 inches high, bearing about its middle a pair (rarely more) of sheathing, elliptical, ribbed, smooth leaves. Below these leaves the stem is angular and smooth, above them round and downy, terminating in a long, dense, upright spike of numerous green flowers, each on a partial stalk, with an acute bractea. Petals with a red or brown tinge, all concave, and directed rather upward. Lip long, pendent, yellowish green, linear, concave at the base, with a rib on the upper side, and ending in 2 rather spreading equal lobes. Column 2-lipped, the upper lip bearing the antheræ, which are brown, parallel, often falling out (as in our magnified figure), discharging two masses of yellow pollen which stick to the lower lip of the column, under which, on its other side, is the stigma. Very often these masses of pollen are scattered over other parts of the plant, as Dr. Scott and others have noticed in *Orchis bifolia*.



Epipactis atrorubens L.





OPHRYS cordata.

*Heart-leaved Mountain Ophrys.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

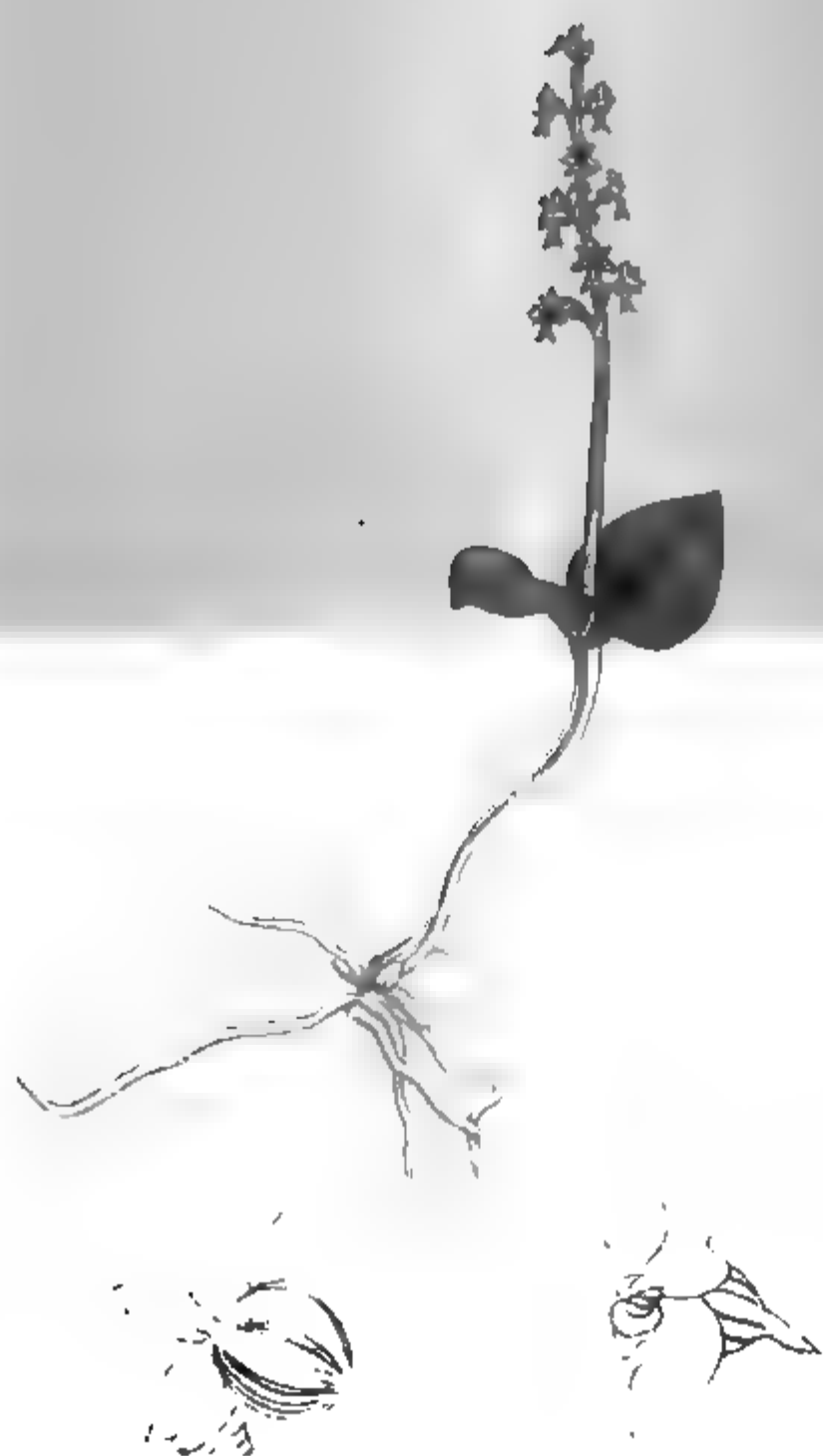
SPEC. CHAR. Root of clustered fleshy fibres. A pair of heart-shaped leaves on the stem. *Nectary* with four lobes.

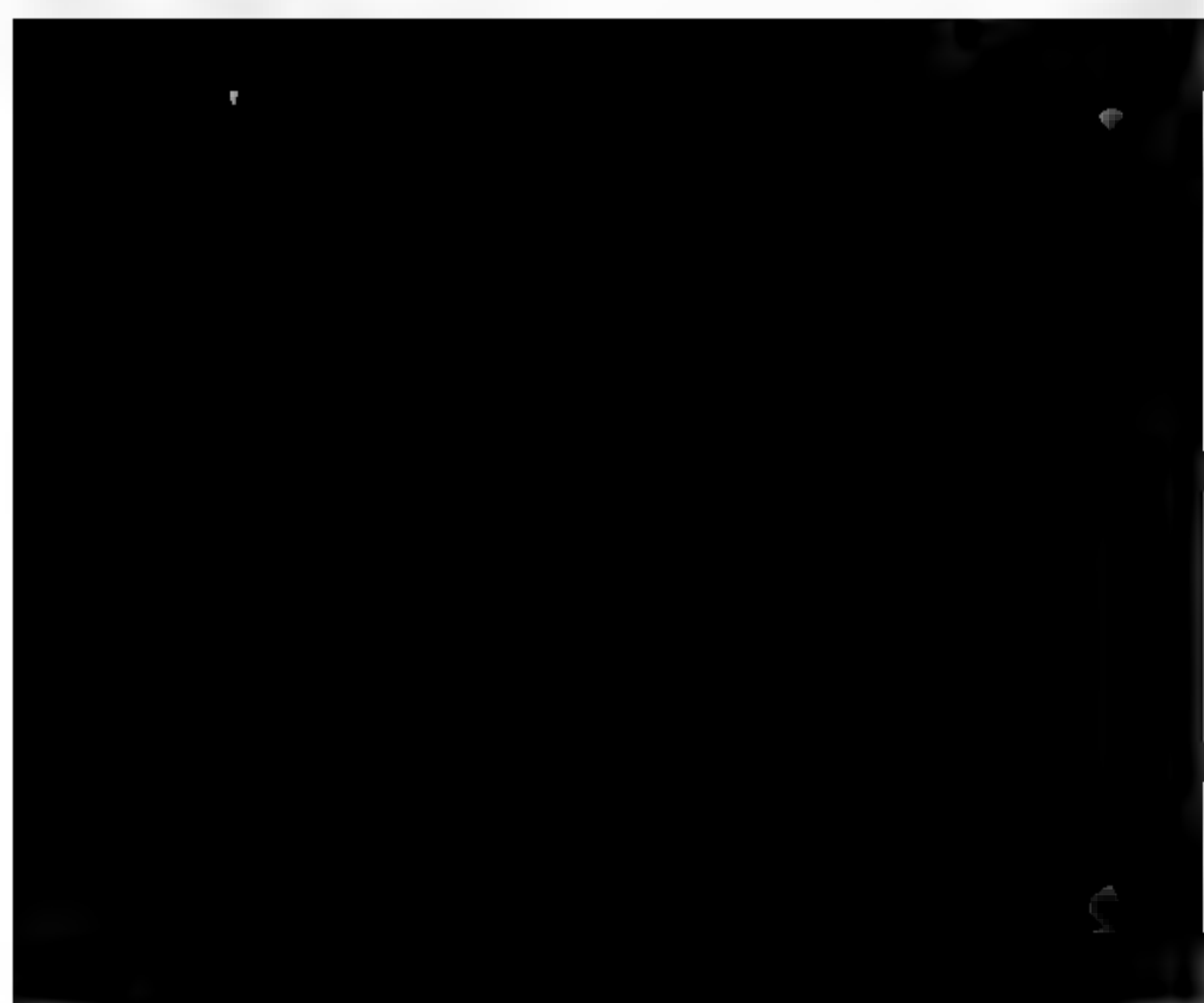
SYN. *Ophrys cordata*. *Linn. Sp. Pl.* 1340. *Huds. Fl. An.* 388. *With. Bot. Arr.* 988.

Bifolium minimum. *Raii Syn.* 385.

FOR this rare alpine plant we are obliged to Mr. Salt of Sheffield, a most assiduous investigator of the vegetable creation, who gathered it on the high turfy moors to the south-west of that town, as indicated by Dr. Smith in *Withering's Bot. Arr.* It grows in moist, shady spots, flowering in June or July.

The root is not much unlike those of *Ophioglossum vulgatum* and *Ornithoglossum lunaria*; we suspect it to be, like those, truly perennial, and not forming a cluster of fibres one year which are totally obliterated (while a new cluster is forming) the next. Stem solitary, angular, 4 or 5 inches high, simple, erect, bearing about its middle a pair of opposite, heart-shaped, pointed, smooth, veiny leaves. Spike terminal, upright, composed of numerous green inconspicuous flowers, whose petals are spreading, equal in length, the 2 innermost only being narrower than the rest, and all often tinged with brown. Lip of the nectary long, dependent, yellowish, having 2 extended linear lobes at the base, and being cloven half way into two longer ones of the same figure. By these first-mentioned lobes this species is essentially distinguished from the common *Ophrys sphegodes* (not to mention size, or the form of the leaves), which has only very slight prominences in that part of its nectary. The capsule is globose, purplish, crowned with the permanent withering corolla, and bursting by lateral clefts.







OPHRY S *spiralis*.*Spiral Ophrys, or Ladies' Traces.**GT N A N D R I A* *Diandria*.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs clustered, oblong. Stem somewhat leafy. Flowers leaning spirally to one side. Lip undivided, crenate.

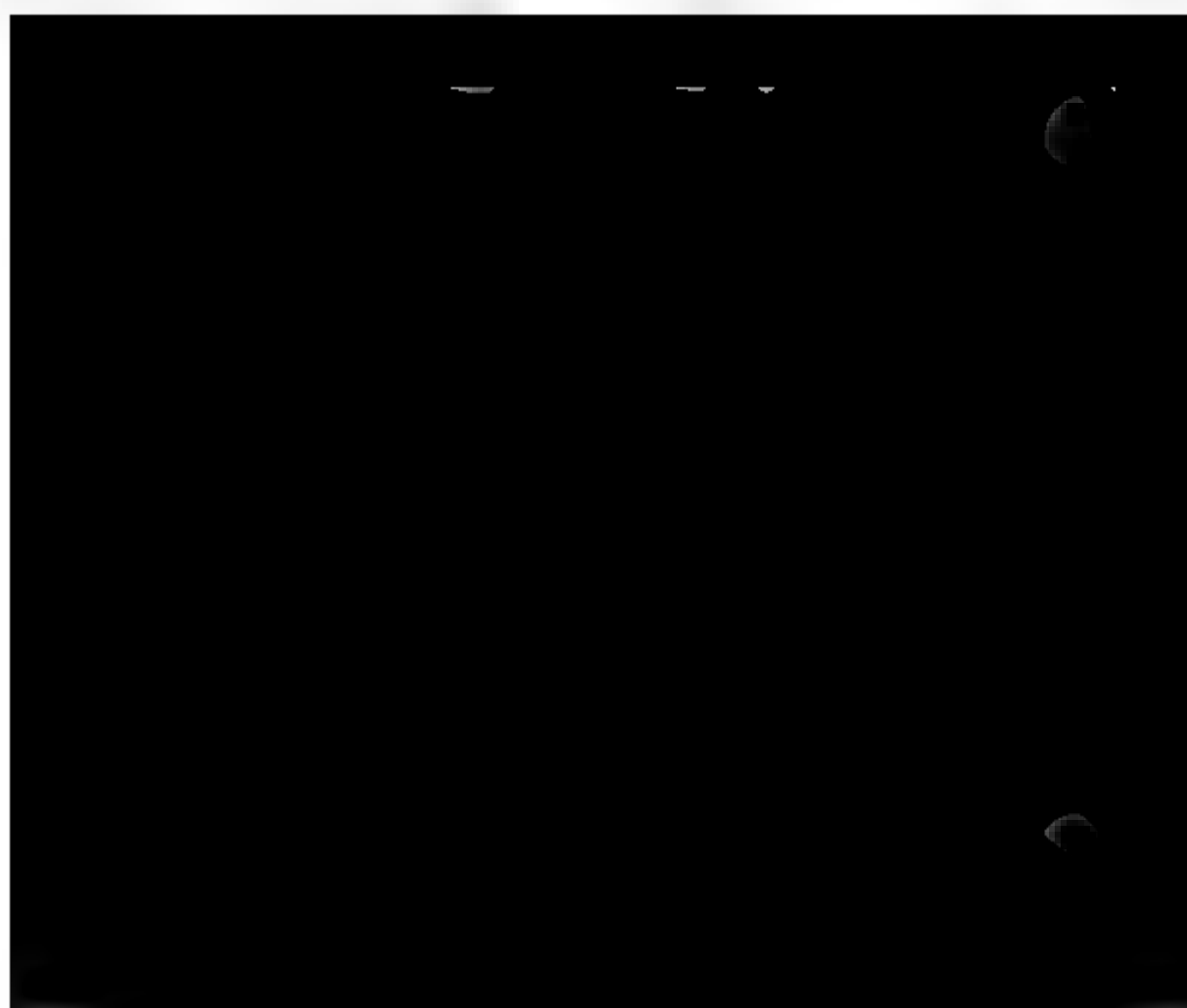
SYN. *Ophrys spiralis*. *Lin. Sp. Pl.* 1340. *Huds.* 389. *With.* 33. *Relb.* 337. *Sibth.* 12. *Curt. Lond. fasc.* 4. *t.* 59. *Dicks. H. Stcc. fasc.* 10. 17.

Orchis spiralis alba odorata. *Ran Syn.* 378.

MISS Lysons, to whom we were obliged for a wild specimen of the *Adonis* *t.* 308, favoured us with this *Ophrys*, which may justly be reckoned among the rarer British plants; for although it grows in many parts of the Kingdom occasionally, either on dry gravelly or chalky hills or in meadows, and often in great plenty; it will seldom be found flowering two years together on the same spot, nor perhaps till 8 or 10 years after it has been first observed, notwithstanding the root is perennial. Nor do the leaves constantly appear; or if they do, in some years they speedily wither away. Its flowering season is August or September.

The root consists of several oblong downy bulbs, each appearing to be formed 2 or 3 years before it produces the flowering plant, as in *Satyrion albidum*, *t.* 505; only in the present case those bulbs seem to be produced solitarily, not in pairs. Stem single, 5 or 6 inches high, invested with a few small sheathing leaves. The radical leaves are ovate, spreading, glaucous, smooth, sometimes finely pubescent about the edge. Spike terminal, erect, of many small, greenish-white, sessile, sweet-scented flowers, leaning to one side, but arranged in a spiral line either to the right or left, and each overshadowed by a concave pointed bractea. The whole spike, with its stalk, is downy and viscid. Three upper petals adhering together. Lip oblong, crenate, with an obsolete lobe at the base. What appears to be the stigma is a very peculiar roundish hairy protuberance, with a cloven point, hanging as it were beneath the antheræ. See Dr. Stokes's full description in *Withering*.





OPHRYS Loeselii.

*Dwarf Opbrys.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulb oval. Stalk naked, triangular. Lip roundish, concave, undivided. Petals linear. Leaves ovato-lanceolate.

SYN. *Opbrys Loeselii*. *Linn. Sp. Pl.* 1341. *Wub. Bot. Arr.* 988.

O. lilifolia. *Relb. Cant.* 337. *Huds. Fl. An.* 390. β . *Pseudo-Orchis bifolia palustris*. *Raii Syn.* 382.

RAY has mentioned this plant as the production of some moors in the neighbourhood of Cambridge: but those moors were long searched for it in vain by succeeding botanists, till the Rev. Mr. Relhan discovered it a very few years ago, growing, not very sparingly, where Ray has reported. This gentleman attributes its remaining so long latent, to its usual situation close to the stems of rushes. To him we are obliged



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2

OPHRYs monorchis.

*Musk Orchis.**GYNANDRIA Diandra.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

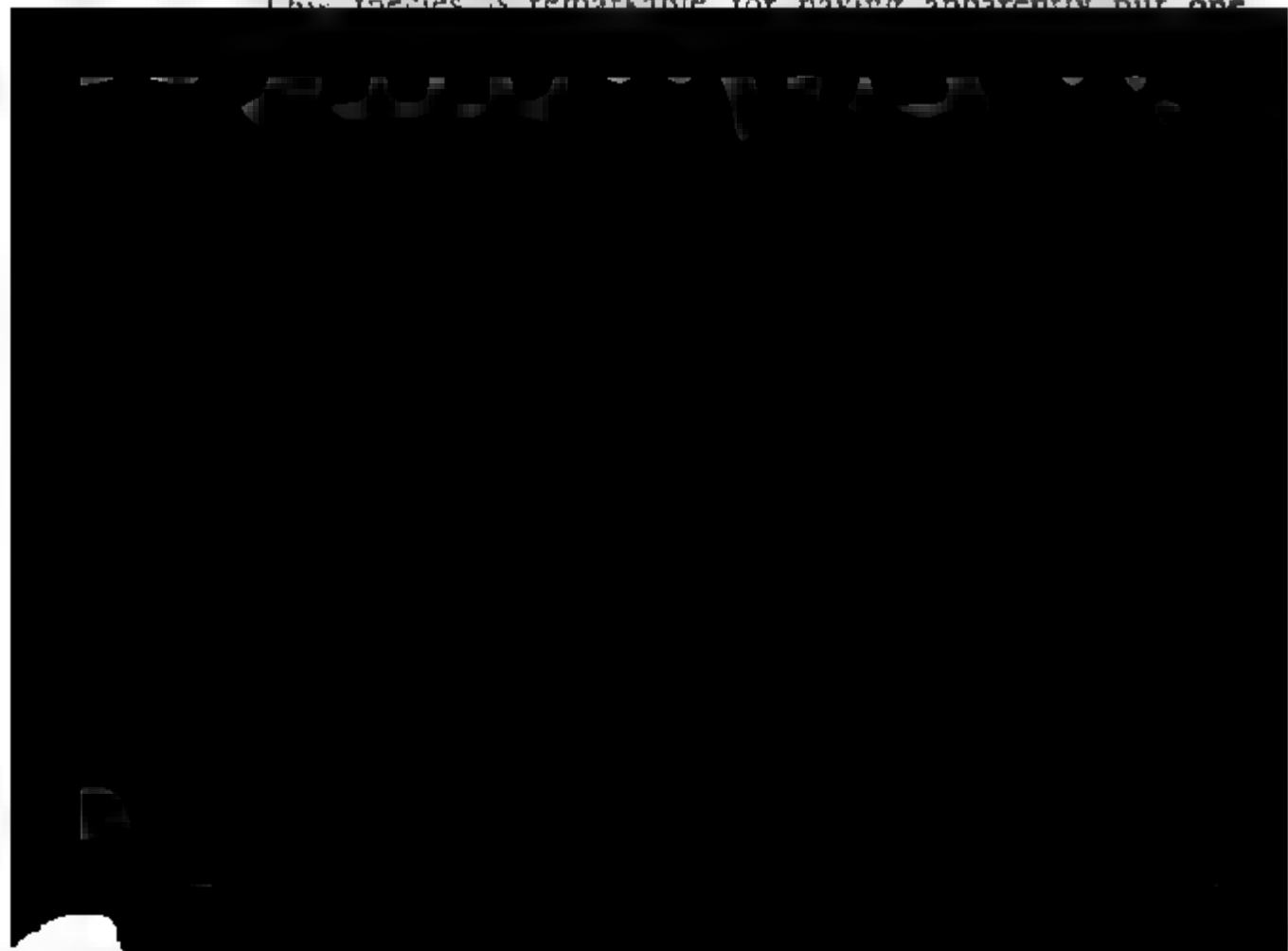
SPEC. CHAR. Bulb globose. Stalk naked. Lip of the nectary three-cleft, as well as the inner petals.

SYN. Ophrys Monorchis. *Linn. Sp. Pl.* 1342. *Hudl. Pl. An.* 390. *Willd. Bot. Arr.* 990. *Rehb. Cant.* 338.

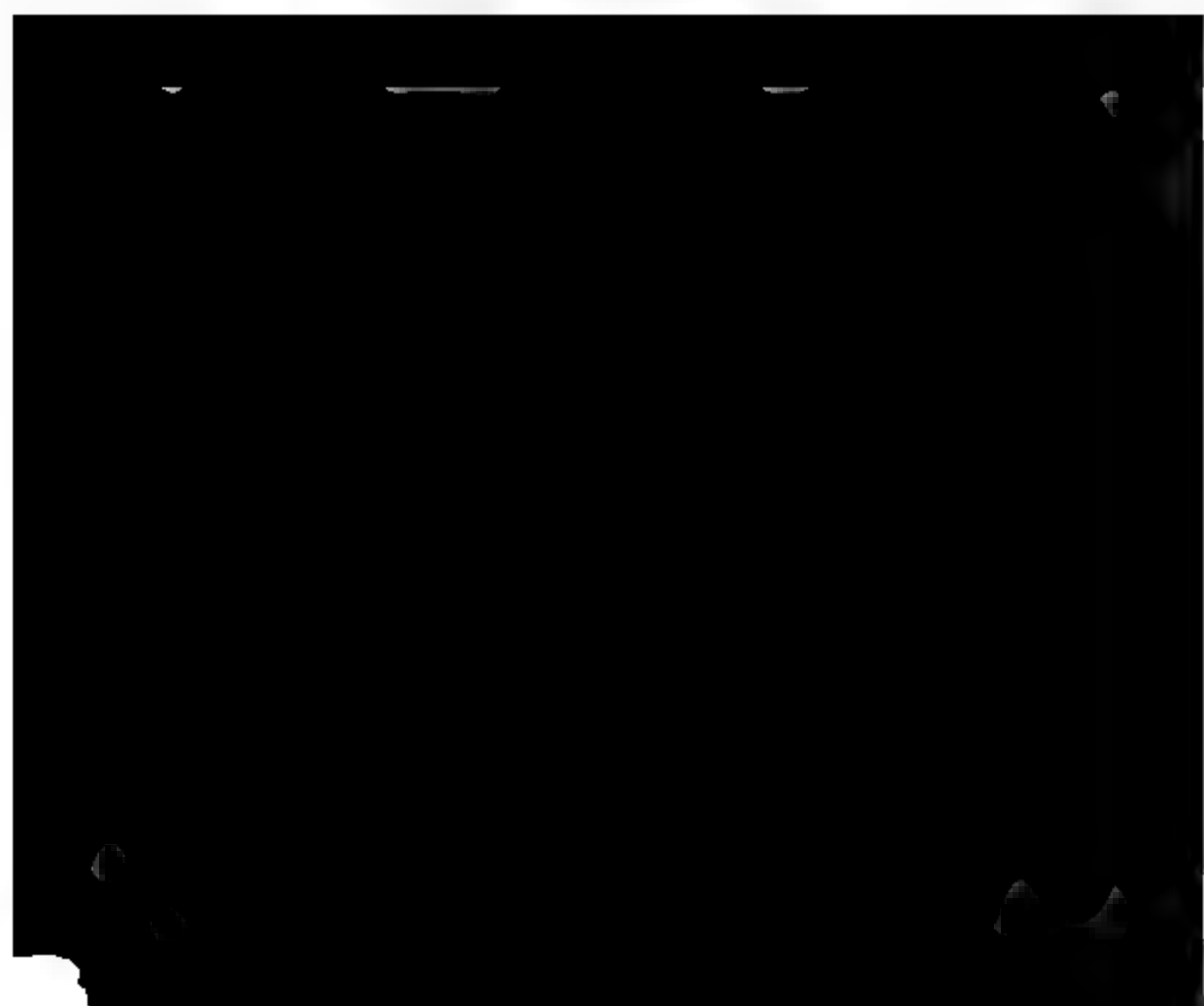
Orchis odorata moschata sive Monorchis. *Raii Syn.* 378.

GROWS in dry chalky pastures. We have received it from Kent by favour of Mr. Jacob Rayer, and from the neighbourhood of Bury gathered by W. Matthew, Esq. The last-mentioned gentleman suspects the radical leaves do not appear till within fifteen or twenty days of its flowering, which happens early in July.

This species is remarkable for having apparently but one







OPHRY S anthropophora.

Green Man Orchis.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

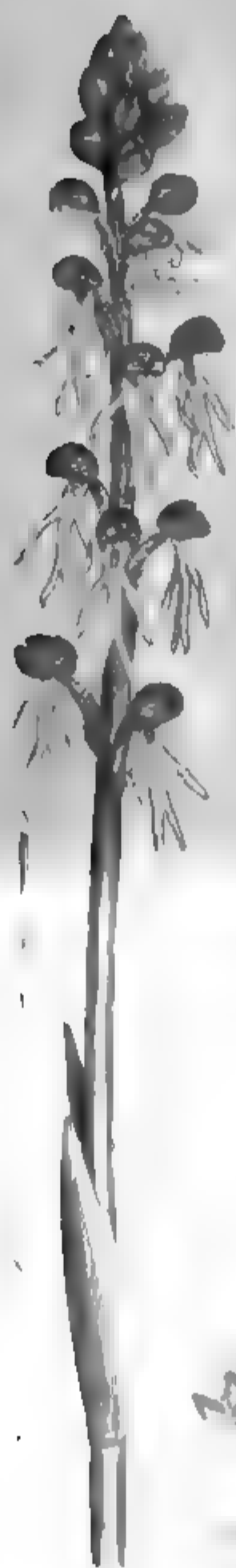
SPEC. CHAR. Bulbs roundish. Stem leafy. Lip linear, in three divisions, the middlemost elongated and cloven.

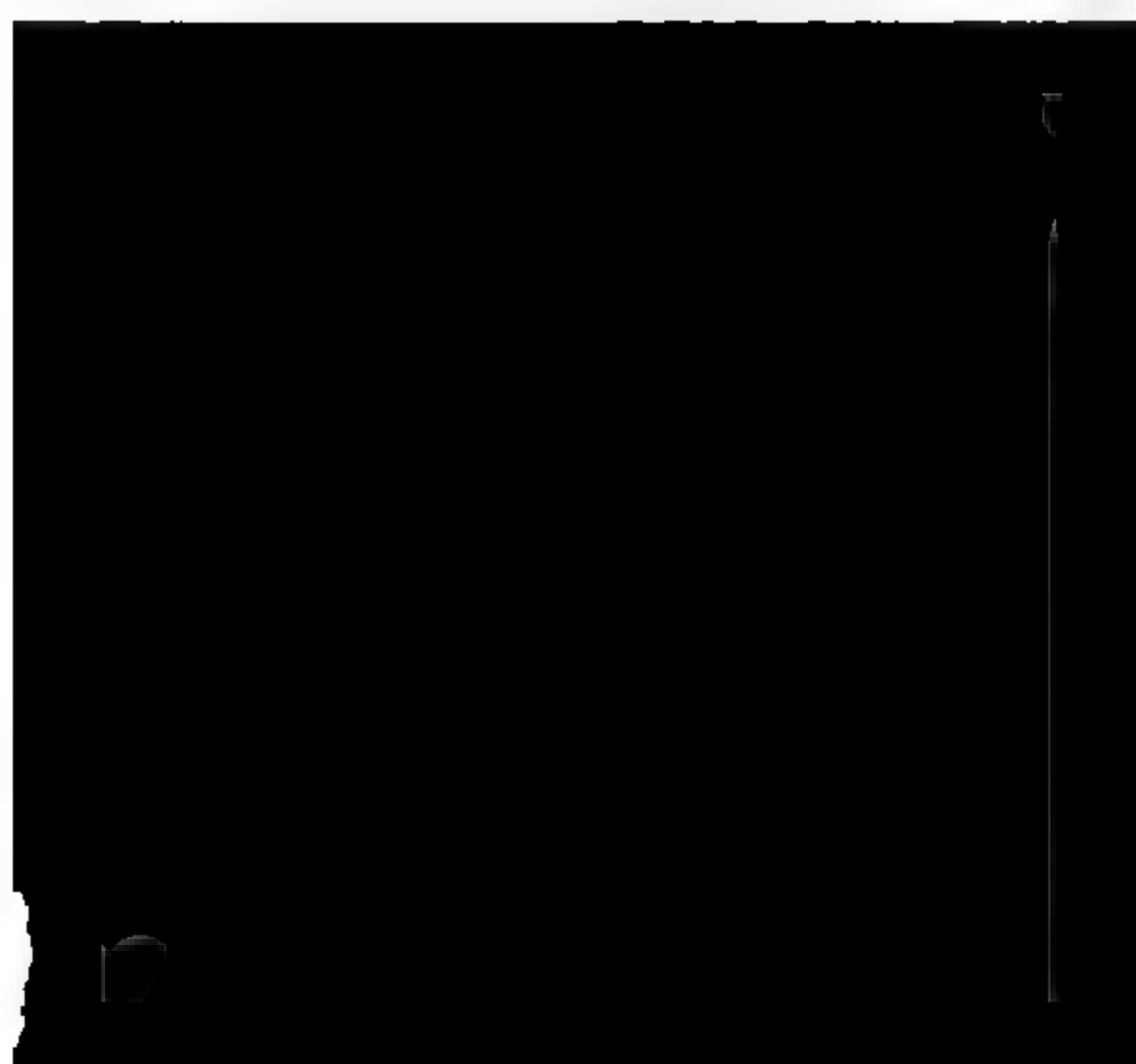
SYN. *Ophrys anthropophora*. *Linn. Sp. Pl.* 1343. *Huds. Fl. An.* 390. *Willd. Bot. Arr.* 991. *Rehb. Cantab.* 338.

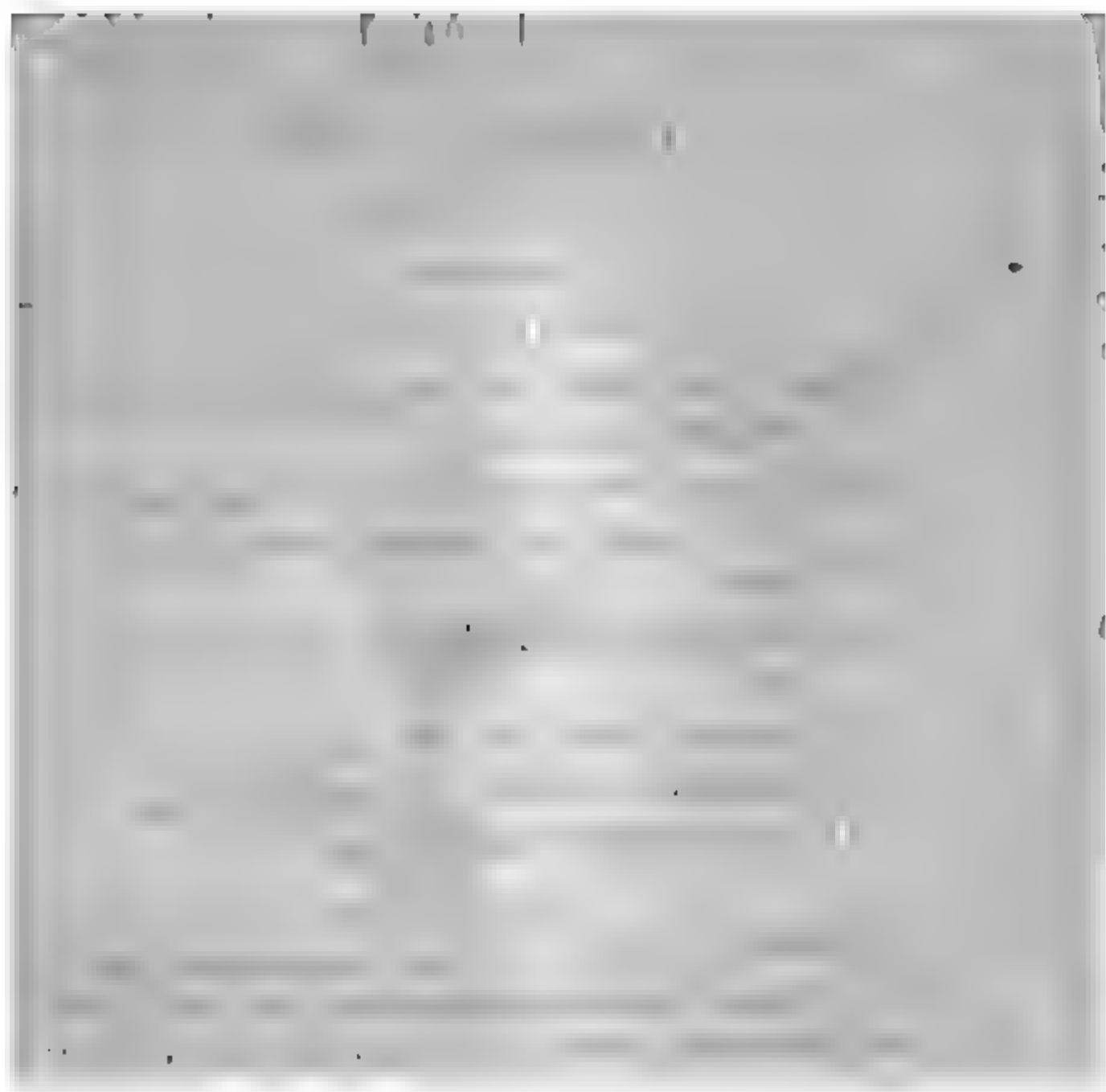
Orchis anthropophora oreades. *Raii Syn.* 379. *Column. Ecphr.* 1. 320. *f.* 1. good.

FOUND in chalk pits, hedges, and by road sides in a chalky soil, in various parts of England, very frequently in Kent; flowering in June. It is rather singular than strikingly beautiful in appearance, and chiefly remarkable for the figure of a naked man represented by the lip of its flower; the petals (which are often brownish) forming a kind of cap or helmet to the figure, as in the Military Orchis, *fig.* 16. The middle segment of the lip, however, is merely bifid, without any small intermediate tooth.

Columna has given a very good figure and description of this *Ophrys* in his *Ecphrasis* above quoted, and claims the honour of being the first who has mentioned it. It has ever since been much celebrated, and is one of those species which Linnæus tells us every body who was curious in plants, when he was at Paris, went from thence to Fontainebleau to see in flower, the neighbourhood of that place abounding with this tribe of plants.







5

OPHRYS muscifera.

*Fly Orchis.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip somewhat convex, downy above, in four straight divisions.

SYN. *Ophrys muscifera.* *Huds. Fl. An.* 391. *Relb. Cont.* 339.

O. myodes. *Willd. Bot. Arr.* 992.

O. insectifera a (*myodes*). *Linn. Sp. Pl.* 1343.

O. myodes major. *Raii Syn.* 379.

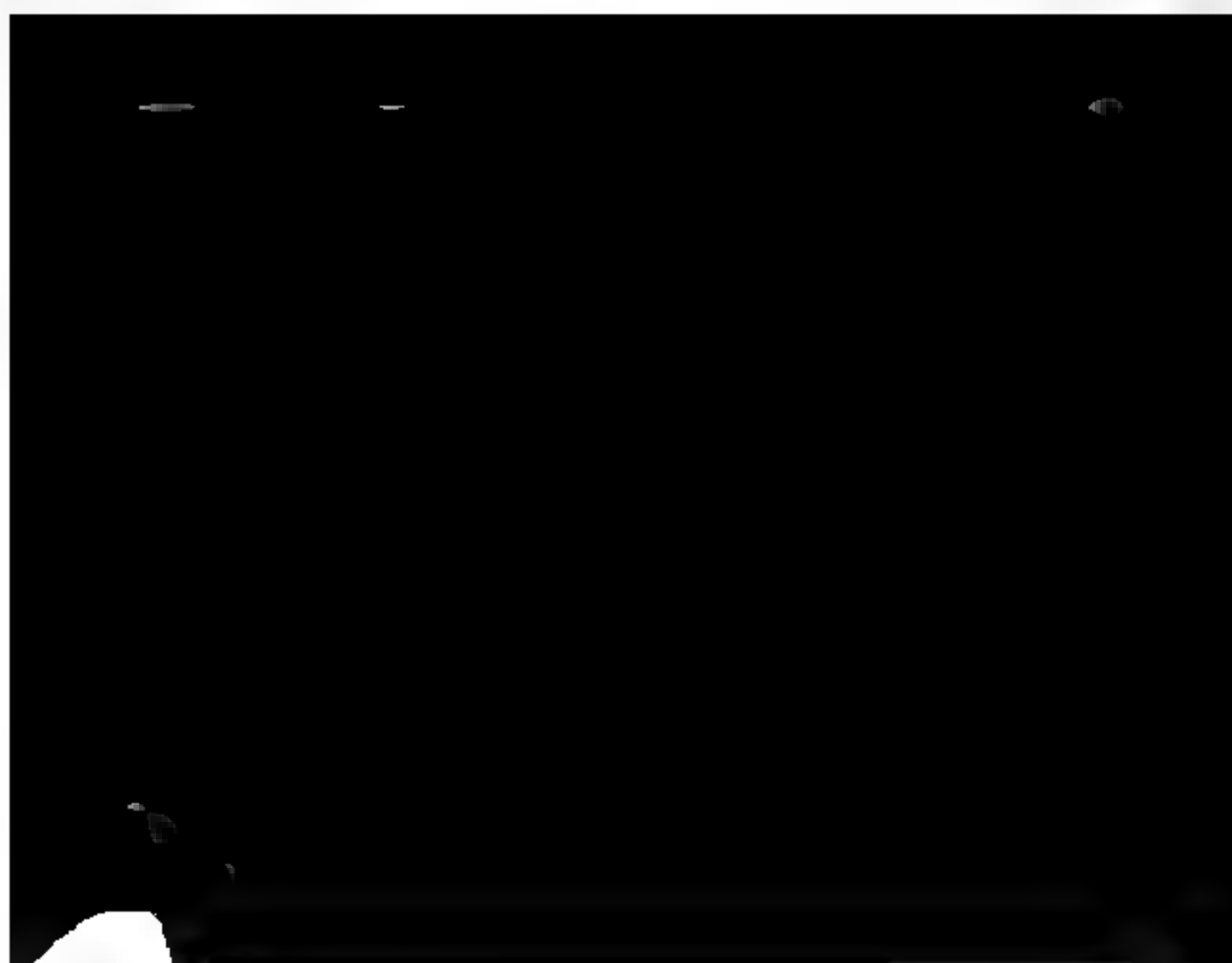
FOUND in meadows and pastures on a chalky soil, but not very common. It is most plentiful in Kent and Cambridgeshire, and has also been gathered near Tacolnestone church in Norfolk, and about Bungay in Suffolk; flowering in May and June.

No wonder the fly, the bee, and the spider orchis should have engaged the attention of all who were curious about

68



2



OPHRYS. *apifera*.*Bee Orchis.*GYNANDRIA *Diandria*.

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip roundish, convex, downy above, in five inflexed divisions, the terminal one acute and recurved.

SYN. *Ophrys apifera*. *Huds. Fl. An.* 391. *Curt. Lond. fasc. 1. t. 66.* *Witb. Bot. Arr.* 993. *Relb. Cant.* 339. *Sibth. Ox.* 13.

Orchis fuciflora galea & alis purpurascentibus. Rar. Syn. 379.

FOUND occasionally in pastures, chiefly on a chalky soil, and sometimes in great plenty, flowering about July.

Mr. Hudson has justly discriminated the three British species of insect-like Orchises, 2 of which we have already figured *tab.* 64 and 65. That now before us is most allied to the *aranifera*, from which it differs in having the 3 larger petals reddish, but more especially in the very different form of the







OPHRYS aranifera.

*Spider Orchis.**GTNANDRIA Diandra.*

GEN. CHAR. *Nectary* consisting of a lip only, slightly carinated at the back.

SPEC. CHAR. Bulbs roundish. Stem leafy. Lip roundish, convex, hairy above, in three divisions, turned in at the margin, and notched at the tip.

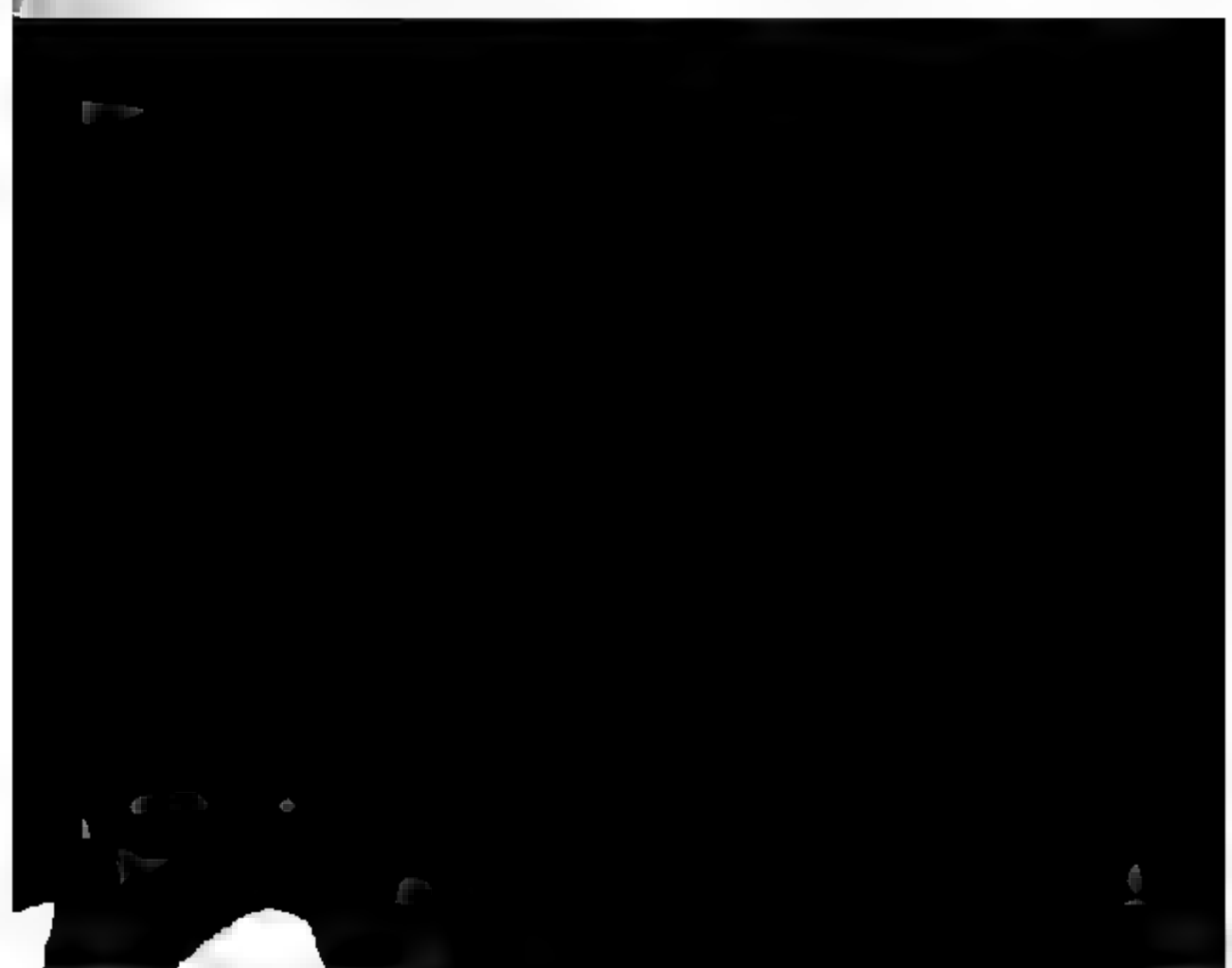
SYN. *Ophrys aranifera.* *Huds. Fl. An.* 392. *Webb. Bot. Arr.* 994. *Relb. Cant.* 340.

Orchis five Testiculus sphegodes hirsuto flore. *Rau Syn.* 380.

THIS, with us the most uncommon of the insect-bearing Orchises, was gathered near Bury by Sir T. G. Cullum, Bart. as well as by W. Matthew, Esq. and we are obliged to both these gentlemen for fine specimens of it, flowering in April. Mr. Is. B. Raver, of Bilt-court, Fleet-street, to whom

0.5





M A L A X I S paludosa.

*Marsh Tway-blade.**GYNANDRIA Diandria.*

GEN. CHAR. *Nectary* of one hollow, heart-shaped, erect leaf, embracing the organs of fructification. *Corolla* reversed.

SPEC. CHAR. Stalk pentagonal. Leaves several, spatulate, rough at the tip.

SYN. *Malaxis paludosa*. Swartz, *Stockholm Transf. for* 1789, p. 127. t. 6. f. 2.

Ophrys paludosa. Linn. *Sp. Pl.* 1341. *Huds. Fl.*

An. 389. *Willd. Bot. Arr.* 989. *Rehb. Cant.* 337.

Rose's Elem. (App.) 450. t. 2. f. 3.

Orchis minima bulbosa. *Raii Syn.* 378.

A NATIVE of turfy bogs on the north side of Norwich, and in some other parts of England; communicated from the neighbourhood of Potton, Bedfordshire, by the Rev. Mr. Charles Abbot of Bedford. It flowers in July, and is the smallest British plant of this tribe.

However averse to unnecessary innovation, it is impossible to refuse our assent to the establishment of this genus as characterised by Dr. Swartz; happy would it be if every genus in *Orchideæ* were as clear. Yet it appears that able botanist has not paid due attention to the corolla being reversed (*reflexa*), the calyx (of the three external ones) being the



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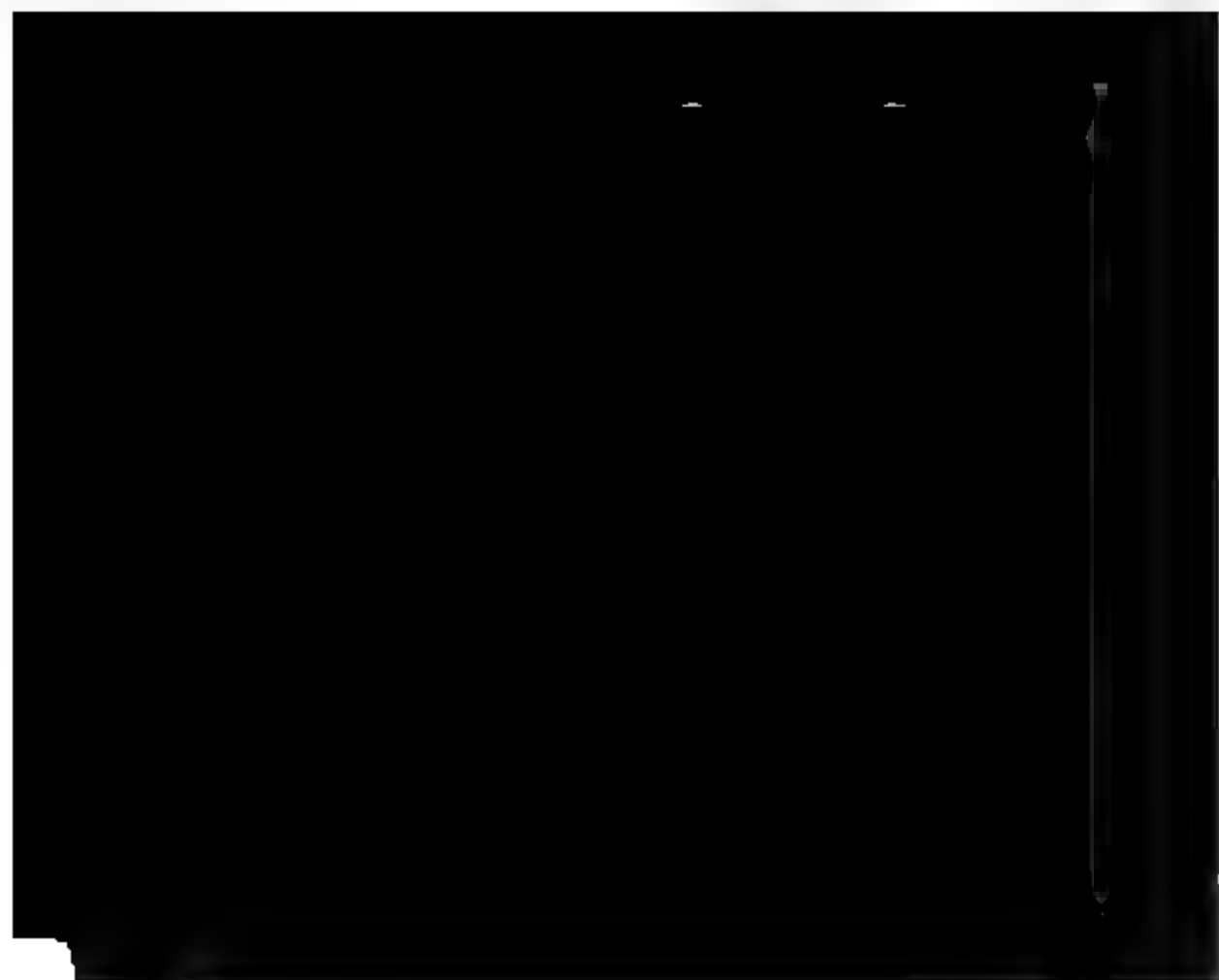


S E R A P I A S *latifolia.**Broad-leaved Helleborine.**GYNANDRIA Diandria.***GEN. CHAR.** *Nectary* ovate, gibbous, with an ovate lip.**SPEC. CHAR.** Roots creeping. Leaves ovate, embracing the stem. Flowers drooping. Lip entire, pointed, shorter than the petals.**SYN.** *Serapias latifolia.* *Linn. Syst. Veg. ed. 14.* 814.
Huds. Fl. An. 393. *Witb. Bot. Arr.* 997. *Lightf. Scot.* 526. *Relb. Cant.* 340. *Sibth. Oxon.* 13.*S. Helleborine a.* *Linn. Sp. Pl.* 1344.*Helleborine latifolia montana.* *Raii Syn.* 383.

NOT uncommon in shady woods, especially in the mountainous parts of this kingdom; we are obliged to the Countess of Aylsford for this specimen. It flowers in July or August.

Root perennial, creeping horizontally, throwing out many long fibres, fleshy, but by no means bulbous, thriving in the moist black vegetable mould of damp woods. Stem simple, erect, near two feet high, clothed with several alternate ovate





SERAPIAS palustris.

Marsh Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. *Nectary* ovate, gibbous, with an ovate lip.

SPEC. CHAR. Roots creeping. Leaves lanceolate, embracing the stem. Flowers drooping. Lip crenate, obtuse, equal to the petals.

SYN. *Serapias palustris.* *Lightf. Fl. Scot.* 527.*S. latifolia* γ, *palustris.* *Huds. Fl. An.* 393.*S. longifolia.* *Linn. Syst. Veg. ed. 14.* 815. *Wilt.**Bot. Arr.* 998. *Relb. Cant.* 341. *Sibth. Oxon.* 14.*Helleborine palustris nostras.* *Raii Syn.* 384.

IN swampy meadows and on watery commons in various parts of England, not very unfrequent; we doubt its being to be met with in any other kind of situation. The flowers are in perfection about July or August.

Root creeping, fleshy, perennial. Stem erect, simple, 12 or 18 inches high, lower leaves ovate, often purple at the back; upper ones lanceolate, erect; all embracing the stem, and ribbed. Spike erect. Bractæ lanceolate, about equal to the germen. Flowers fewer and much larger than in the preceding species, drooping, with downy purple flower-stalks and







7

[177]

SERAPIAS grandiflora
Willd. Helictotrich.

GTNANLEIA *Willd.*

GEN. CHAR. *Noddy ovate, gibbous, with an ovate lip.*

SPEC. CHAR. *Root creeping. Leaves elliptico-lanceolate. Bractes longer than the germen. Flowers erect. Lip ovate, rather shorter than the petals.*

SYN. *Serapias grandiflora. Legit. Fl. Scot. 528. Willd. Bot. Arr. 1000. R. & C. 341. Sibth. Orn. 14.*

S. longifolia. Hb. Fl. An. 393.

Helictotrich flore albo. R. & C. 383.

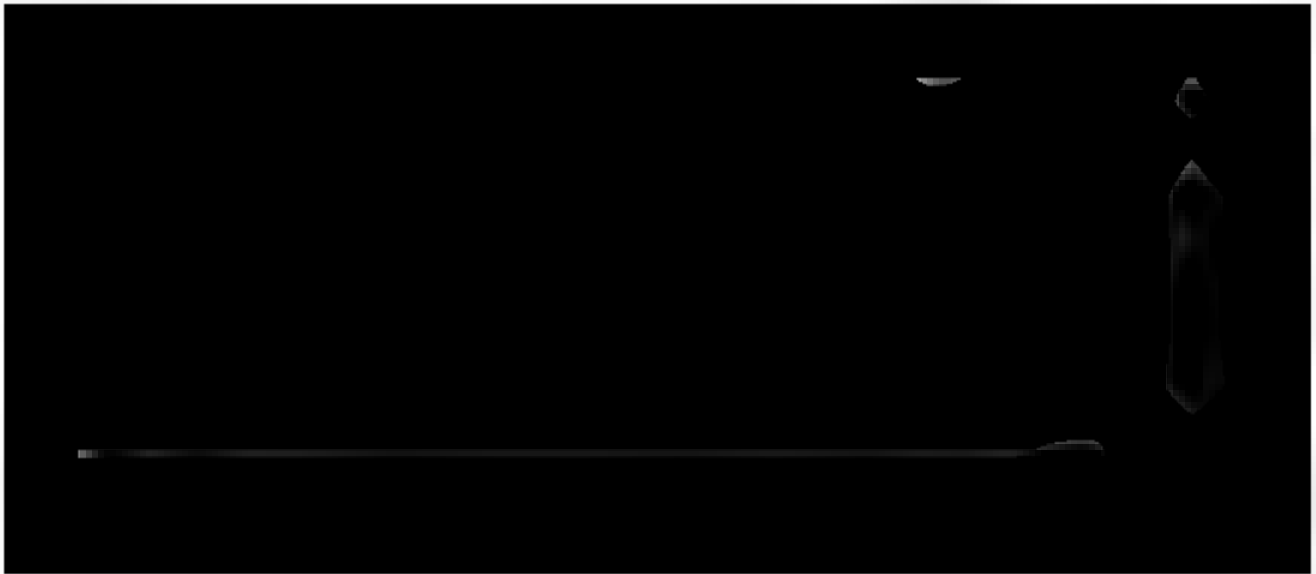
COMMUNICATED by the Rev. Mr. Baker, P. L. S. from Gloucestershire. It occurs in woods and thickets, chiefly in the midland counties, very rarely in Scotland, flowering in June.

Root long and creeping, perennial. Stem about a foot high. Leaves ribbed, various in breadth, but generally rather elliptical than lanceolate, their base half embracing the stem. Spike erect, of from three to eight large white, nearly upright flowers. Lower bractes like the leaves in form and size; the others gradually less, but none shorter than the germen, which is slender, and deeply furrowed. Petals but little ex-











[437]

S E R A P I A S rubra.

Purple Helleborine.

GYNANDRIA Diandria.

GEN. CHAR. Nectary ovate, gibbous, with an ovate lip.

SPEC. CHAR. Root creeping. Leaves lanceolate.

Bractææ longer than the germen. Flowers erect.

Lip acute, marked with undulating lines.

SYN. *Serapias rubra*. Linn. *Syst. Veg. ed.* 14. 816.*With.* 42. *Fl. Dan.* t. 345.*S. longifolia* δ. *Huds.* 394.*S. grandiflora* δ. *With. ed.* 2. 1001.*Helleborine montana angustifolia purpurascens.* *Raii**Syn.* 384.*Epipactis* N. 1299. *Hall. Hist.* v. 2. 156. t. 42.

DILLENIIUS, in his edition of Ray's Synopsis, inserts this as a native of Ireland, on the authority of Plukenet; Hudson says it grows in the north part of Yorkshire; but Dr. Withering, who in his third edition has first rightly explained the species of *Serapias*, mentions the *rubra* as a very doubtful native. We are enabled to decide the question by means of this wild specimen, gathered last June on a steep stony bank, sloping to the south, on Hampton Common, Gloucestershire, by Mrs. Smith of Barnham House in that neighbourhood, who observed about a dozen of the plants within a small space. In the following month we received specimens gathered in another part of the same county by the Rev. Mr. Baker.

This is unquestionably a most distinct species, though confounded by Hudson with *grandiflora* (see our t. 271.) and *ensifolia*; nor were these plants ever well understood by Linnæus.

The root creeps horizontally, producing many long simple fibres. Stem perfectly erect, a foot high, leafy, downy; compressed, and with fewer leaves in the upper part. Leaves a little spreading in various directions, lanceolate, pointed, ribbed. Spike of from three to six upright purple flowers. Bractææ lanceolate; the lowermost sometimes as long as its corresponding flower, the rest but a little longer than the germen, sometimes rather shorter. Germen slender, downy. Petals all directed upwards, ovate, very much pointed. Nectary with a short blunt projection behind, its lip about equal to the petals in length, white tipped with purple, lobed on each side at the base, marked with yellow elevated undulating lines, and terminating in a sharp point; by which mark it is certainly distinguished, as Haller observes, from *S. grandiflora*.



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[1]

CYPRIPEDIUM Calceolus.

*Ladies Slipper.**GTNANDRIA Diandria.*

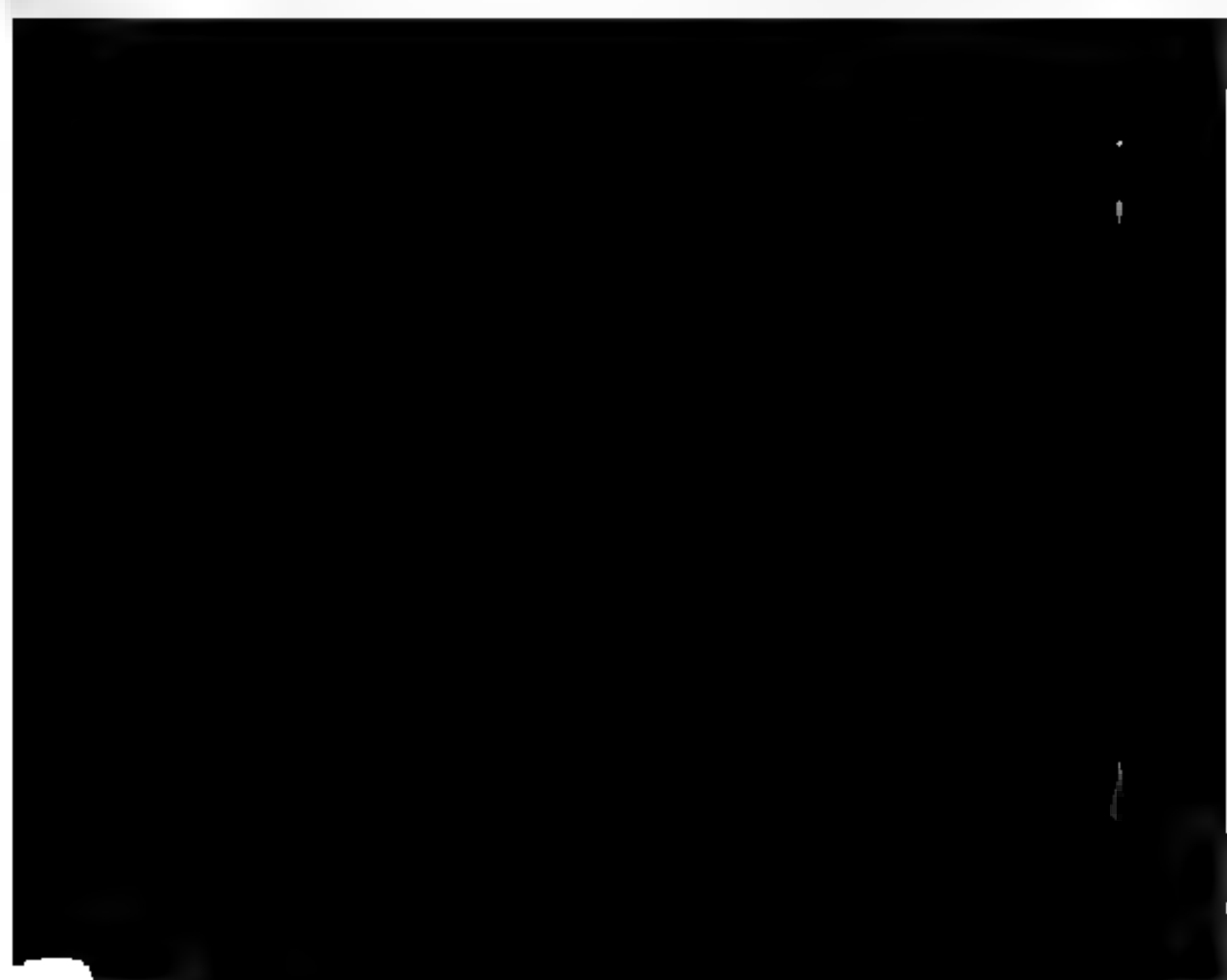
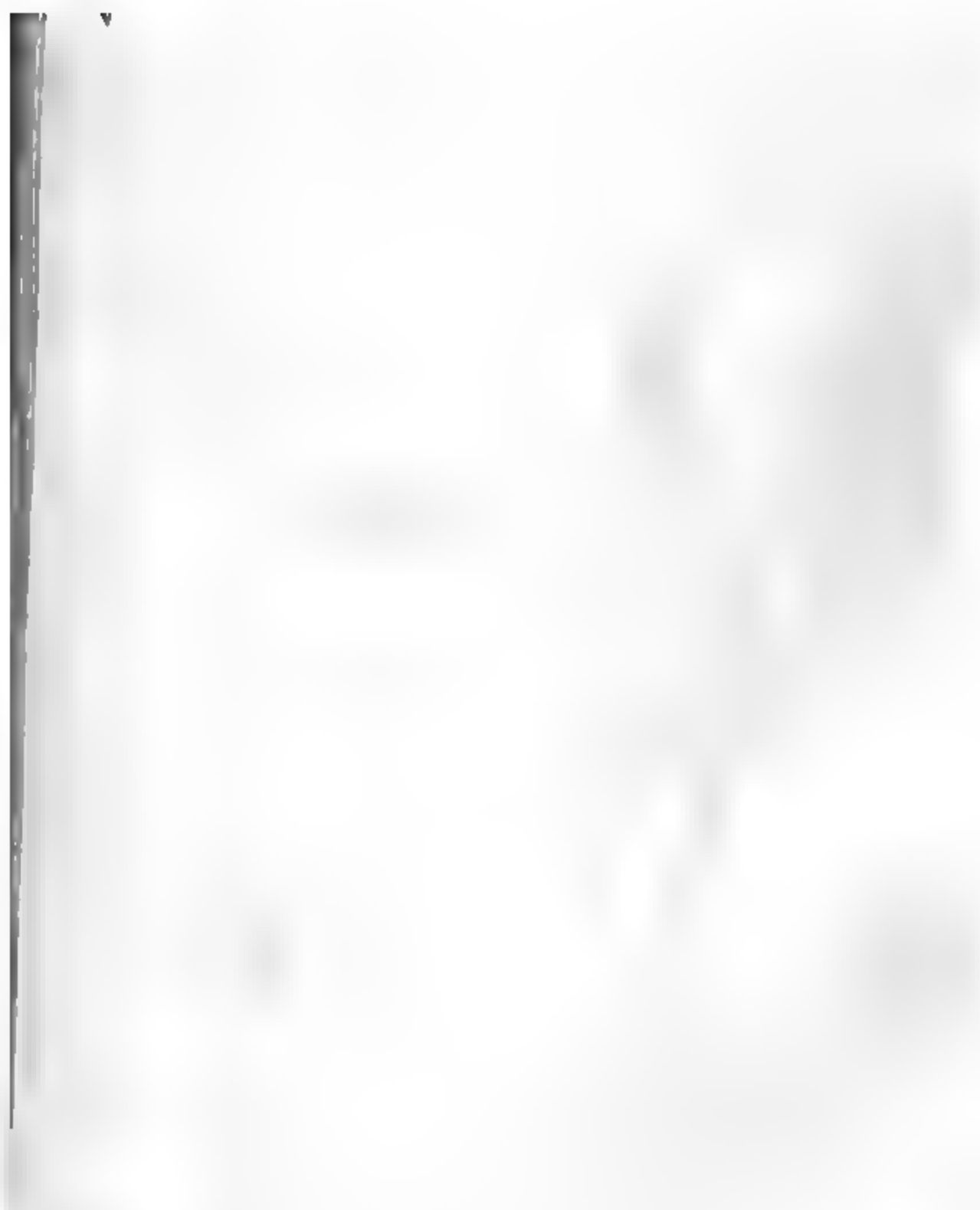
GENERIC CHARACTER. *Nectarium* large, inflated, and hollow.

SPECIFIC CHAR. Roots fibrous. Leaves ovato-lanceolate, growing on the stem. Flower with four petals.

SYN. *Cypripedium Calceolus.* *Lin. Sp. Pl.* 1346.
Huds. Flo. An. 392. *Witbering's Bot. Arr.* 1001.
Calceolus Mariæ. *Raii Syn.* 385.

IF the beauty or scarcity of a plant, or the singularity of its structure, entitle it to our notice, the Ladies Slipper certainly merits the first place in a work on British plants. It may indeed be reckoned the queen of all the European Orchidæ. Accordingly it has not only been admired and cherished by the scientific botanist, but it has among gardeners always been held in the







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ARISTOLOCHIA Clematitis.

Common Birthwort.

GYNANDRIA Herandria.

GEN. CHAR. *Stigmas* 6. *Cal.* none. *Corolla* of one tongue-shaped, entire petal. *Capsule* inferior, of 6 cells.

SPEC. CHAR. *Leaves* heart-shaped. *Stem* erect. *Flowers* in axillary clusters.

SYN. *Aristolochia Clematitis.* *Linm. Sp. Pl.* 1364. *Huds. Fl. An.* 394. *With. Bot. Arr.* 1003. ed. 3. 360. *Relh. Cant.* 342. *Sibth. Ox.* 112. *Dicks. Dr. Pl.* 14.

RAY appears to have considered this plant as too doubtful a native to be admitted into his *Synopsis*, but he could not be uninformed of its being found, apparently in a state of nature, in many parts of England. It is generally observed about the ruins of nunneries, as at Godstow Oxfordshire, and Carrow Abbey near Norwich, from which last place our specimen was sent by the Rev. Mr. Sutton. The several kinds of *Aristolochia* were formerly a principal remedy for some female disorders.

The root of this species is long, slender, creeping, and perennial. Stems many, nearly 2 feet high, erect, round, striated, smooth, a little zigzag. Leaves alternate, on footstalks, without stipulæ, heart-shaped, entire, smooth, broad, with many strong veins, the lateral nerves branching in a pedate manner. Flowers 5 or 6 in a cluster from the bosom of each leaf, on shortish stalks, erect, pale yellow, appearing from July to September, of a very singular form, consisting of one petal globose at the base with 6 furrows, then funnel-shaped and terminating in a tongue-like figure. In the bottom of this petal stand the stamina and styles, forming a globular body all together, but the germen is below the corolla. The very short thick stamina do really grow out of the style (which is likewise short and thick), so that this genus is truly *gynandrous*, and we see no reason for abolishing that class merely because some plants have been erroneously referred to it. The style appears to us simple, with 6 stigmas, so that we have ventured in that respect to alter the Linnæan character. Like other vegetables that increase much by root, it rarely ripens its fruit.



2





[1844]

ZANNICHELLIA palustris.
Horned Pondweed.

MONOECIA Monandria.

GEN. CHAR. Male, *Cal.* none. *Cor.* none. *Stam.*
 Filament solitary, elongated, erect: *anther* ovate,
 erect. Female, *Cal.* of 1 leaf. *Cor.* none. *Germens*
 4 or more. *Seeds* as many, stalked. *Stigmas* peltate.

SPEC. CHAR. Anther of four cells. Stigmas entire.

SYN. *Zannichellia palustris.* *Linn. Sp. Pl.* 1375. *Sm.*
Fl. Brit. 955. *Huds.* 397. *With.* 6. *Hull.* 202.
Relh. 358. *Sibth.* 3.

Aponogeton aquaticum graminifolium, staminibus sin-
gularibus. *Raii Syn.* 135.

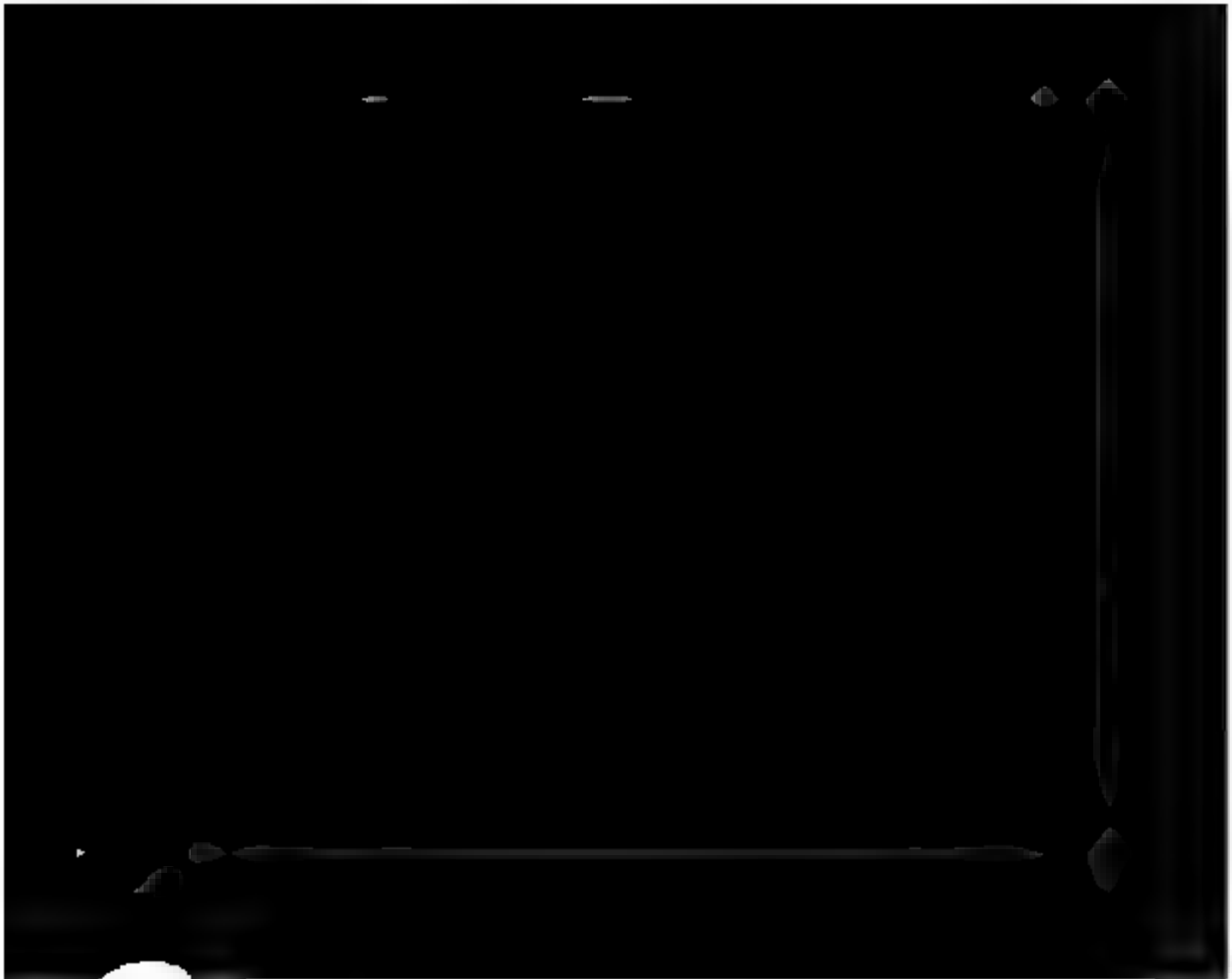
MICHEL named this genus in honour of a Venetian apothecary, whom he greatly celebrates for his knowledge and zeal with regard to natural history, especially marine plants and animals. He describes two species, one of which only has been met with in Britain.

This is an annual plant, occurring in ponds and ditches, as in Totball fields, and many other places in the summer season.

1841



The effect of the light intensity on the rate of photosynthesis



TYPHÀ latifolia.

Great Cat's-tail or Reed-mace.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.
 Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves somewhat sword-shaped. Male and female catkins close together.

SYN. *Typha latifolia.* *Linn. Sp. Pl.* 1377. *Sm. Fl. Brit.* 959. *Huds.* 400. *With.* 111. *Hull.* 203. *Relh.* 360. *Sibth.* 25. *Abbot.* 199.

T. major. *Curt. Lond. fasc. 3. t. 61.*

Typha. Raii Syn. 436.

FREQUENT in pools, ditches and about the margins of slow streams, growing in the water, and familiar to the most casual observer by its tall stems and great mace-like brown spikes, which flower in July. Some persons mistake it for the Bull-rush, *t.* 666.

The creeping perennial roots run deep into the mud, and







TYPHA angustifolia.
Lesser Cat's-tail or Reed-mace.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.

Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves flattish, semicylindrical beneath. Catkins a little distant; leafless.

SYN. *Typha angustifolia.* Linn. *Sp. Pl.* 1377. Sm. *Fl. Brit.* 959. Huds. 400. With. 111. Hull. 203. Relh. 360. Abbot. 199. *Fl. Dan.* t. 815.

T. minor. Curt. *Lond. fasc.* 3. t. 62.

T. palustris media. Raii *Syn.* 436.

MUCH more rare than the last. Curtis found it in the middle of Woolwich Common. We have observed it in clay-pits in several parts of Norfolk and Suffolk, but scarcely in any other county. It flowers in July.





TYPHA minor.

*Dwarf Cat's-tail or Reed-mace.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* cylindrical, hairy. *Antheræ* about 3 together on each filament.

Female, *Catkin* cylindrical. *Seed* 1, on a feathered stalk.

SPEC. CHAR. Leaves linear, convex beneath. *Catkins* a little distant; the male leafy; female short and turgid.

SYN. *Typha minor*. *Sm. Fl. Brit.* 960. *Bauh. Hist.* v. 2. 540. *Lob. Ic.* 81.

T. angustifolia β . *Linn. Sp. Pl.* 1378. *Huds.* 400.

T. palustris minor. *Dill. in Raii Syn.* 436.

T. palustris minima, *duplici clavâ*. *Moris. Sect.* 8. t. 13. f. 3.

MR. DANDRIDGE is said by Dillenius to have found this on Hounslow heath; and as the plant was well known and distinguished by botanists of that time, though confounded by Linnæus with *T. angustifolia*, we presume there could be no mistake about it. We have never seen any other than Genevan specimens; but having lately obtained more perfect ones than are described in the *Fl. Brit.* or any other work, those hitherto figured or mentioned having been defective in the

2457



Mar. 2, 1862. Delivered to J. C. Edwards, London.

v





SPARGANIUM *ramosum*.*Branched Bur-reed.**MONOECIA Triandria.*GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry, with
1 seed.SPEC. CHAR. Leaves triangular at the base, their sides
concave. Common flower-stalk branched. Stigma
linear.SYN. *Sparganium ramosum*. *Sm. Fl. Brit.* 961. *Huds.*
401. *With.* 112. *Hull.* 203. *Sibtb.* 25. *Cart.*
Lond. fasc. 5. t. 66. *Raii Syn.* 437.*S. erectum*. *Linn. Sp. Pl.* 1378. *Relb.* 348.
Abbot. 200.**C**OMMON in ditches and about the banks of rivers, flower-
ing in July and August.The root is perennial and creeping. Stem upright, about
three feet high, round, leafy, smooth, divided at the top into
many alternate, slightly zigzag, flowering-branches. Radical
leaves sword-shaped, erect, smooth, entire; at their base trian-





SPARGANIUM simplex.

Unbranched Upright Bur-reed.

MONOECIA Triandria.

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.

Female, *Cal.* 3-leaved. *Cor.* none. *Drupe* dry, with 1 seed.

SPEC. CHAR. Leaves triangular at their base, their sides flat. Common flower-stalk simple. Stigma linear.

SYN. *Sparganium simplex.* *Sm. Fl. Brit.* 962. *Huds.* 401. *With.* 112. *Hull.* 203. *Sibth.* 25. *Abbott.* 200. *Curt. Lond. fasc.* 5. t. 67. *Dicks. H. Sicc. fasc.* 6. 7.

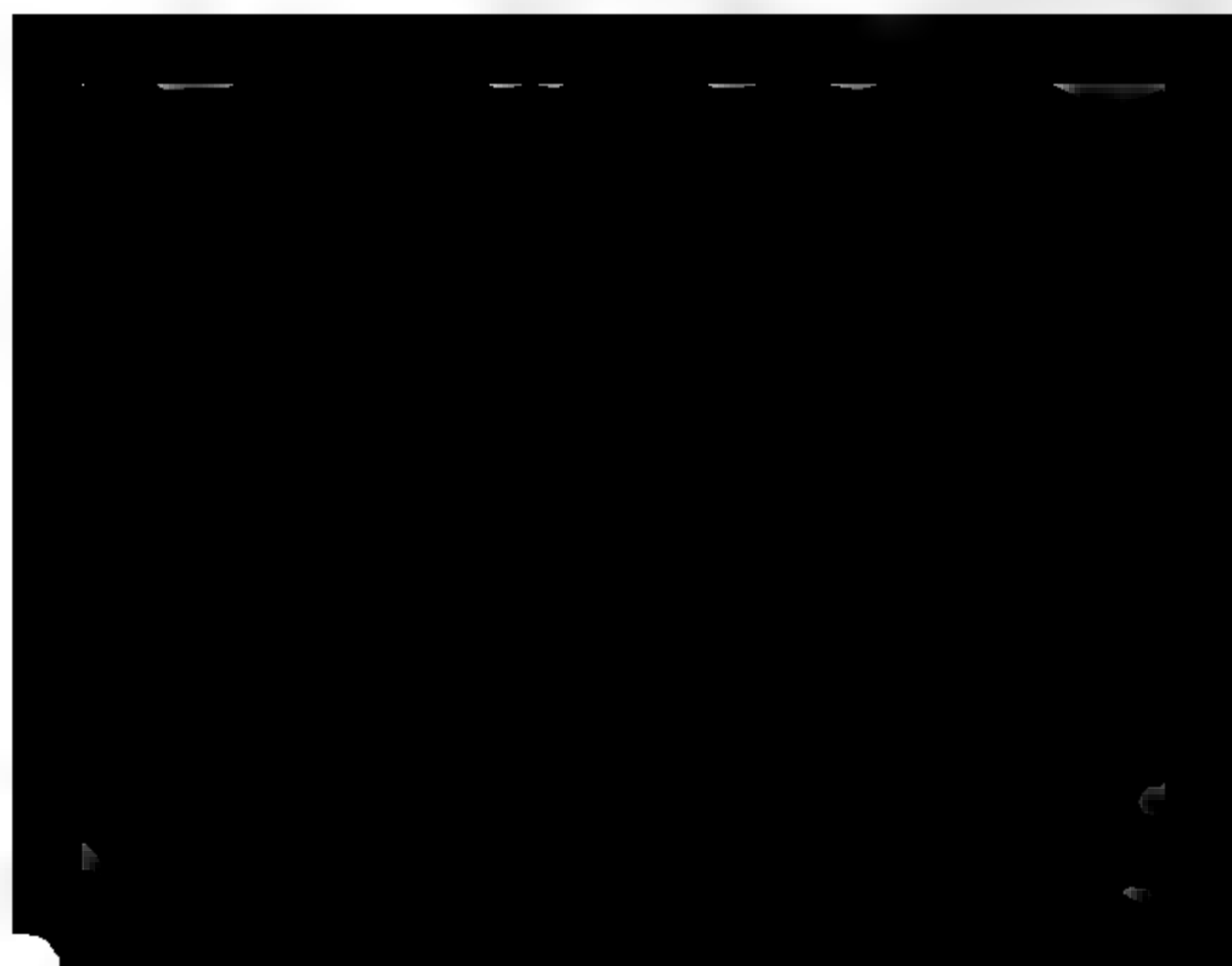
S. erectum β. *Linn. Sp. Pl.* 1378.

S. non ramosum. *Rail Syn.* 437.

NOT very rare in pools and ditches, particularly where the soil is gravelly, flowering in July and August.

This is smaller than the more common *S. ramosum*, of which it has been considered as a variety, but certainly without reason. Mr. Curtis has well remarked that the sides of the triangular bases of the radical leaves in this are flat or level, not







SPARGANIUM natans.

*Floating Bur-reed.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* none.
 Female, *Cal.* 3-leaved. *Cor.* none. *Drupa* dry,
 with 1 seed.

SPEC. CHAR. Leaves drooping, flat. Heads of flowers
 in a simple spike, most of them accompanied by
 leaves. Style not longer than the germen.

SYN. *Sparganium natans.* *Linn. Sp. Pl.* 1378.
Willd. Bot. Arr. 1025. *Fl. Dan.* t. 260.

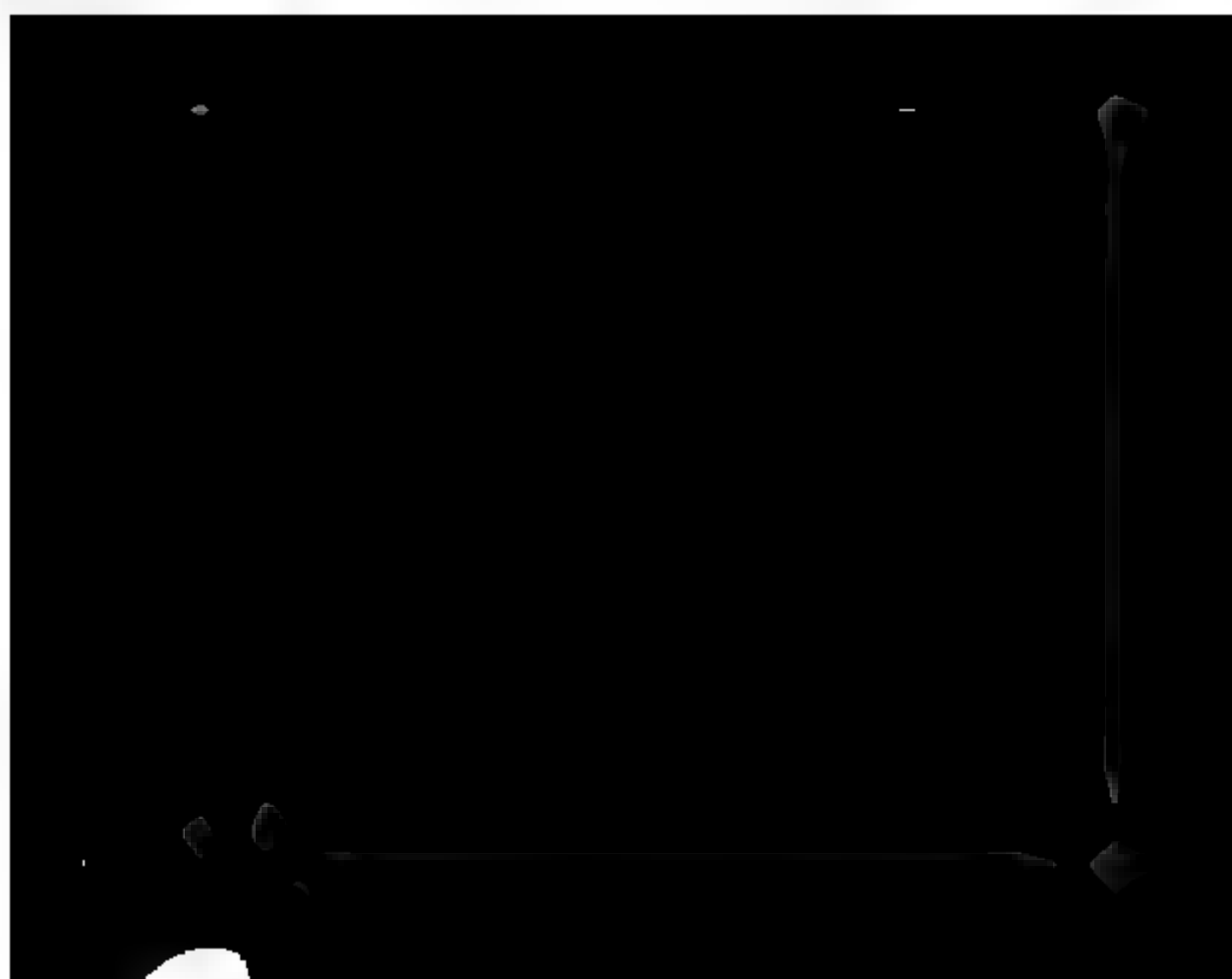
S. simplex, β. *Hudsf. Fl. An.* 401.

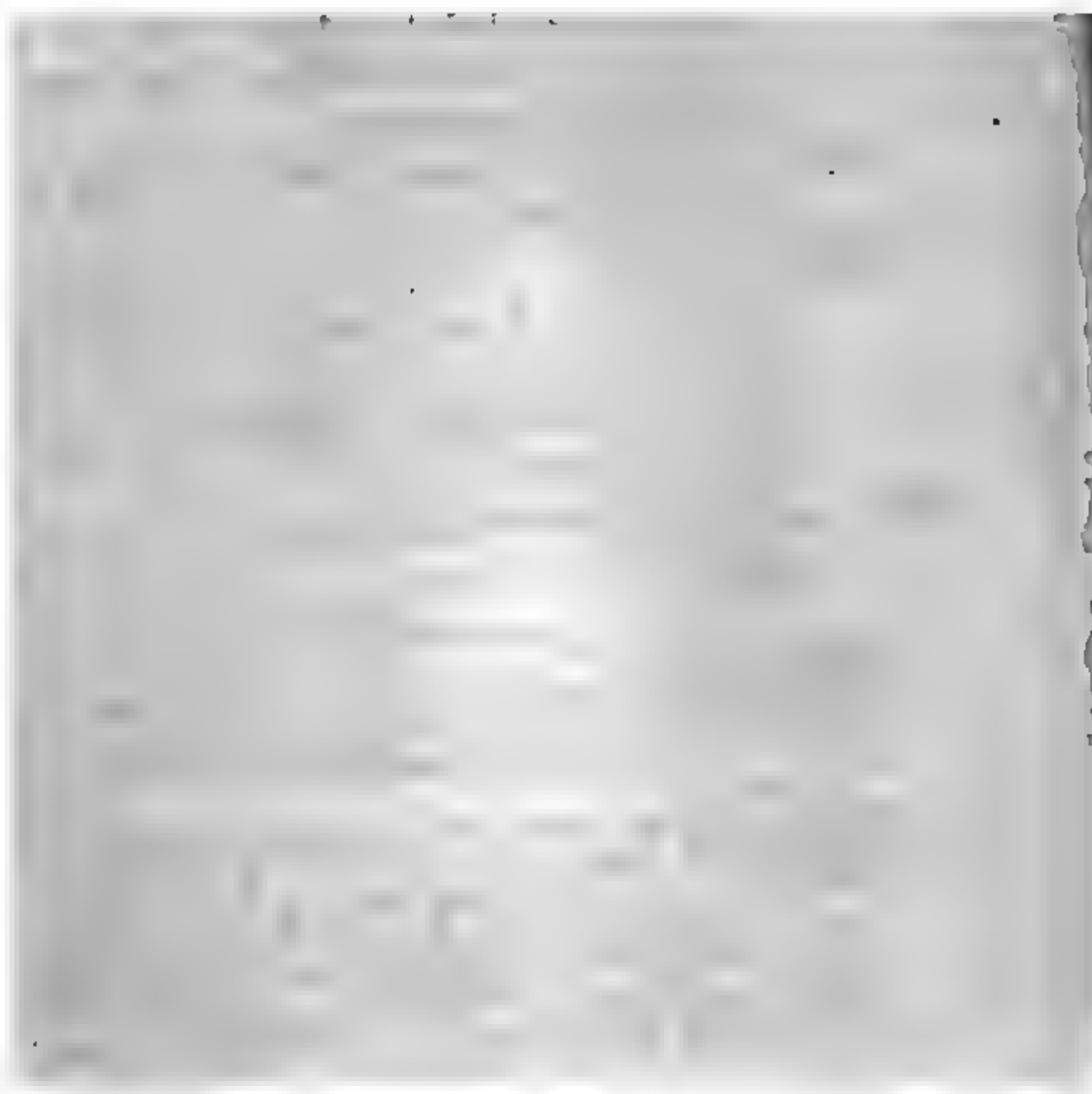
S. minimum. *Rail Syn.* 437.

SENT by the Rev. Mr. Hemsted from Burwell fens, Cam-
 bridgehire. It prefers a muddy or clay soil, flowering in July.

Root perennial, creeping, with long fibres, running deep
 into the muddy bottoms of ditches or slow streams. Stems
 ascending, round, leafy. Leaves linear, narrow, thin and
 almost pellucid, flat; sheathing and a little channelled to-
 wards the base, but without any degree of *carina* or mid-rib;
 the lowermost long and floating, the rest gradually shorter.
 Flowers from the bosoms of the upper leaves, in 3 or 4 solitary
 little round heads: we can by no means comply with Lin-
 naeus in calling them *amenta*, with the definition and nature
 of which they do not agree: they are really *capitula*. The







2

CAREX dioica.

Small Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spikes simple, dioecious. Corolla ribbed, finely serrated.

SYN. *Carex dioica.* *Linm. Sp. Pl.* 1379. *Huds.* 401. *With.* 86. *Relb.* 349. *Sibtb.* 26. *Gooden. Tr. of Linm. Soc.* v. 2. 139.

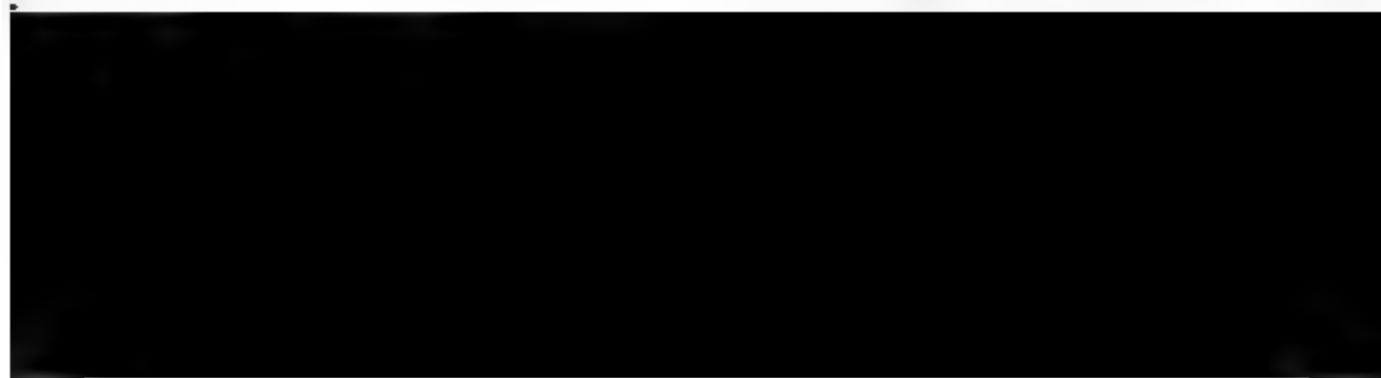
Gramen cyperoides minimum, Ranunculi capitulo rotundo. *Raii Syn.* 425.

♀. *G. cyperoides minus, Ranunculi capitulo longiore.* *Raii Syn.* 425.

FOUND in spongy bogs not unfrequently, though it may easily be overlooked. It flowers in May, ripening its seed in June or July, when its round heads are more conspicuous than









CAREX Davalliana.

Prickly Separate-headed Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes simple, dioecious. Fruit lanceolate, triangular, ribbed, deflexed; its angles rough towards the summit.

SYN. *Carex Davalliana.* *Sm. Tr. of L. Soc.* v. 5. 266. *Fl. Brit.* 964. *Hull. ed.* 2. 268. *Willd. Sp. Pl.* v. 4. 208.

C. dioica β. *Sm. Fl. Brit.* 964.

C. dioica. *Huds.* 401.

Gramen cyperoides minus, ranunculi capitulo longiore. *Raii Syn.* 425.

Cyperoides parvum &c. *Mich. Gen.* 56. n. 1. t. 32. f. 1.

FIRST made known to us, as a British plant, by Professor J. Beatie, who found it in Mearns-shire. Mr. Groult next gathered it on Landsdown near Bath, from whence Mr. E. Forster communicated our specimens, the ripe fruit only being added from one of Mr. Davall's own. Mr. Forster informs us it grows on the slope of a hill on which there is a clump of firs, about a mile and a quarter from Bath. We are also greatly obliged to him for suggesting Ray's and Hudson's synonyms, in consequence of which the long-uncertain *C. capitata* of the latter, certainly not that of Linnæus, turns out the real *dioica*, t. 543. Mr. Templeton has found the *Davalliana* near Belfast. It is much the most common of the two in Switzerland. We cannot but wonder that the observing Mr. Wahlenberg still esteems them but varieties of each other.

The root of this, as Willdenow well observes, is tufted, not creeping; stem rough, not smooth. The spikes are much longer than in *dioica*, and the long, reflexed, strongly ribbed seed-covers, roughish only at the angles near the top, not serrated, are abundantly characteristic.

2123



Herb. 1810 published by J. J. Tournefort, London

✓

1

2





[1051]

CAREX pulicaris.
Flea Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none.—Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike simple, androgynous; the male flowers uppermost. Fruit spreading and reflexed, tapering at both ends. *Stigmas* two.

SYN. *Carex pulicaris.* *Linn. Sp. Pl.* 1380. *Gooden. Tr. of Linn. Soc.* v. 2. 142. *Sm. Fl. Brit.* 965. *Huds.* 402. *Witb.* 86. *Hull.* 204. *Relb.* 349. *Sibth.* 26. *Abbot.* 203.

Gramen cyperoides minimum, seminibus deorsum reflexis puliciformibus. *Raii Syn.* 424.

THIS little *Carex* grows in spongy or muddy boggy places, flowering early in June, when it might be overlooked for the male plant of *C. dioica*, and in that state it is figured in *Fl. Dan.* t. 166. When in a week or two the fruit begins to ripen, all the female flowers spread widely, and at length become reflexed, the dark brown highly polished seed-cases giving the plant a singular and characteristic aspect, which has

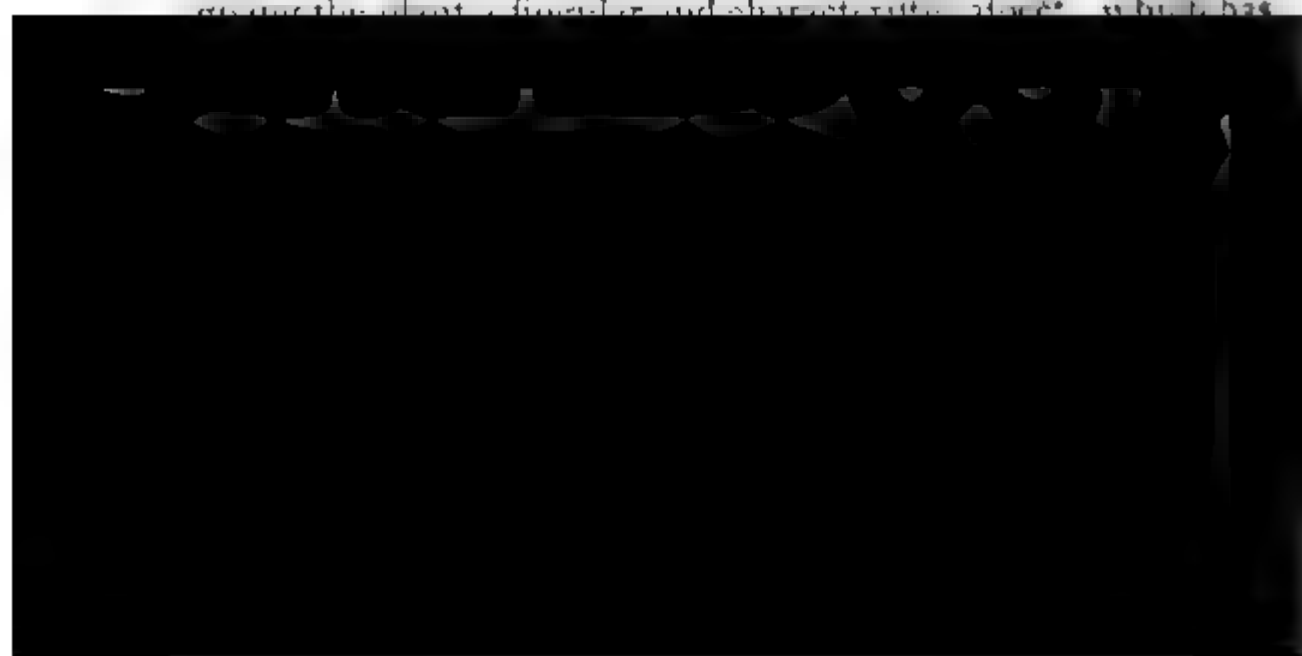




Fig. 1. 1800. Published by J. C. Gower, London



C A R E X pauciflora.
Few-flowered Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike simple, of few flowers, the upper one male. Fruit spreading, awlshaped. *Stigmas* three.

SYN. *Carex pauciflora.* *Lightf.* 543. *t.* 6. *f.* 2. *Sm. Fl. Brit.* 966. *Gooden. Tr. of L. Soc.* v. 2. 143. *With.* 87. *Hult.* 204. *Dicks. H. Sicc. fasc.* 1. 16. *Winch Guide,* v. 1. 83.

C. patula. *Huds.* 402 and 657.

C. Leucoglochin. *Linn. Suppl.* 413. *Ehrh. Phyt.* n. 8.

THIS rare little *Carex* had been found in no other part of Britain than Scotland, till Mr. Winch met with it in June 1803 in Northumberland. It grows on peat bogs, flowering early in that month.

Root creeping, scaly. Stems from 3 to 5 inches high, erect, bowed at the base, smooth, obscurely triangular. Leaves about 2 embracing the base of each stem, channelled, smooth, much shorter than the stems. Spike solitary, erect, of from 4 to 6 flowers, of which the upper one only is a male, and upright; the rest are females, a little spreading, and at length reflexed. Scales lanceolate, of a pale rust-colour. Fruit of the same hue, tapering, somewhat triangular, furrowed. *Stigmas* three; *Lightfoot* says they are occasionally but two.

We prefer the original name of *Lightfoot*, to the hard Greek one, foisted into the *Supplementum Plantarum* by *Ehrhart*, as he superintended the press, without *Lamæus's* knowledge.

21242



Silene acaulis L. var. *helvetica* L.



CAREX stellulata.

Little Prickly Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets three or four, remote, androgynous. Fruit divaricated, with an elongated undivided beak.

SYN. *Carex stellulata.* *Gooden. Tr. of Linn. Soc.* v. 2. 144. *Sm. Fl. Brit.* 966. *Witb.* 87. *Hull.* 204.

C. muricata. *Huds.* 406. *Lights.* 549. *Relb.* 350. *Abbot.* 202.

C. echinata. *Sibth.* 28.

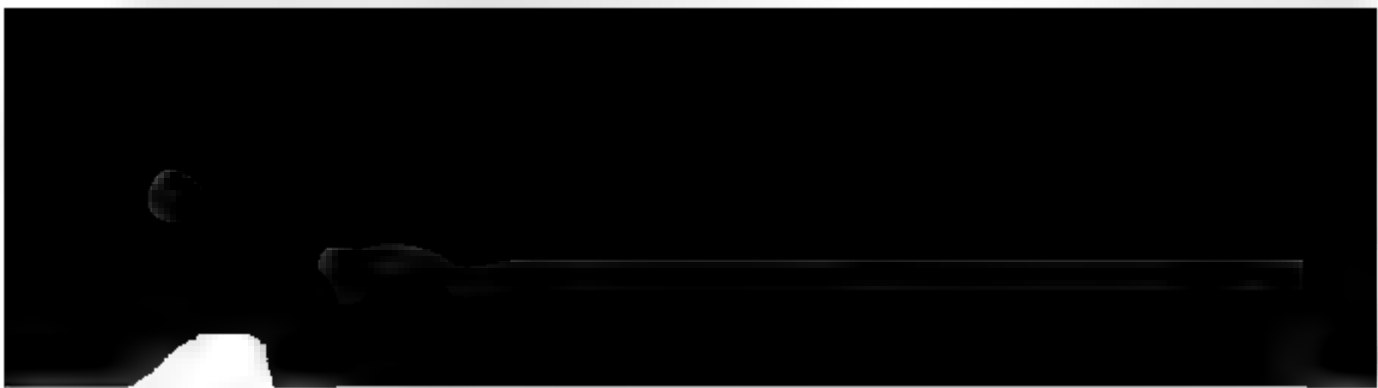
Gramen cyperoides spicatum minimum, spica divisi, aculeata. *Raii Syn.* 424.

NOT unfrequent in marshy, rather barren, ground, flowering in May and June.

Root fibrous; perennial, as usual with the *Carex* tribe. Stem from 6 to 12 inches high, erect, straight, simple, naked except at the base, triangular, the angles roughish upwards.



Scilla maritima L.





✓

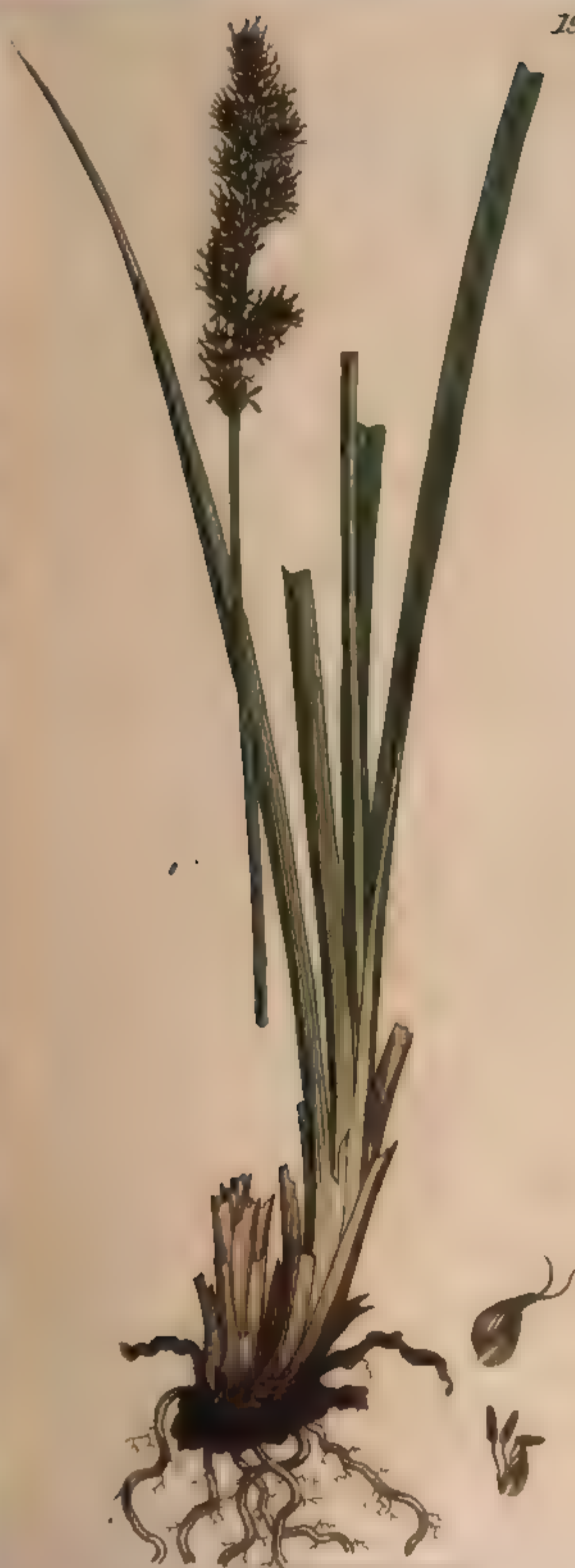


Pl. 1288. Published by J. S. Edwards, London.





1920



Sparganium angustifolium Michx.

CAREX ovalis.

*Oval-spiked, or Naked Carex.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. Seed triangular, invested with the corolla.

SPEC. CHAR. Spikelets about six, oval, close together, alternate. Scales lanceolate, equal to the capsule.

SYN. *Carex ovalis.* Gooden. *Tr. of Linn. Soc.* v. 2. 148.

C. leporina. Huds. *Fl. An.* 404. *With. Bot. Arr.* 1029.

Relh. Cant. Suppl. 1. 15. *Sibth. Or.* 27.

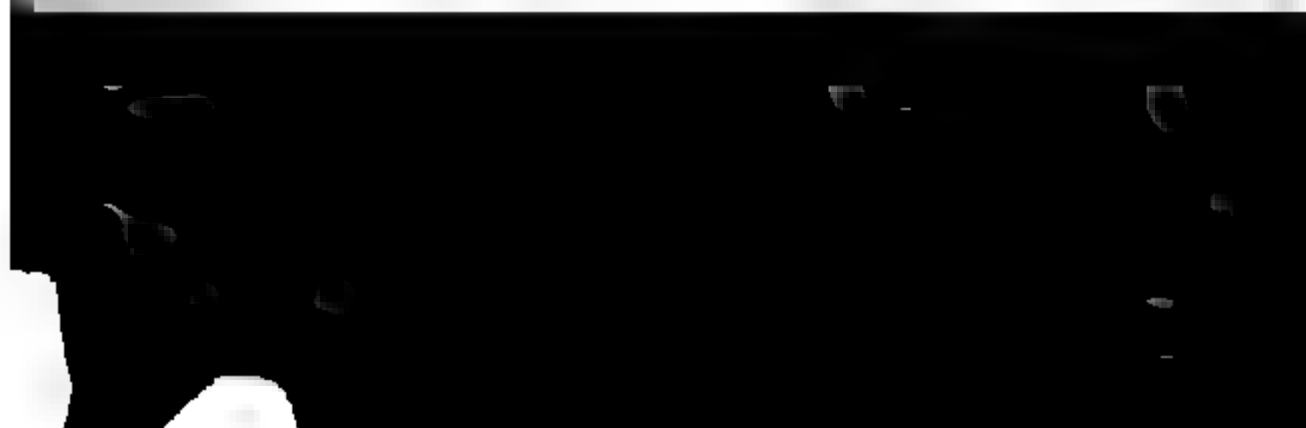
Gramen cyperoides, spica e pluribus spicis mollibus composita. *Raii Syn.* 422.

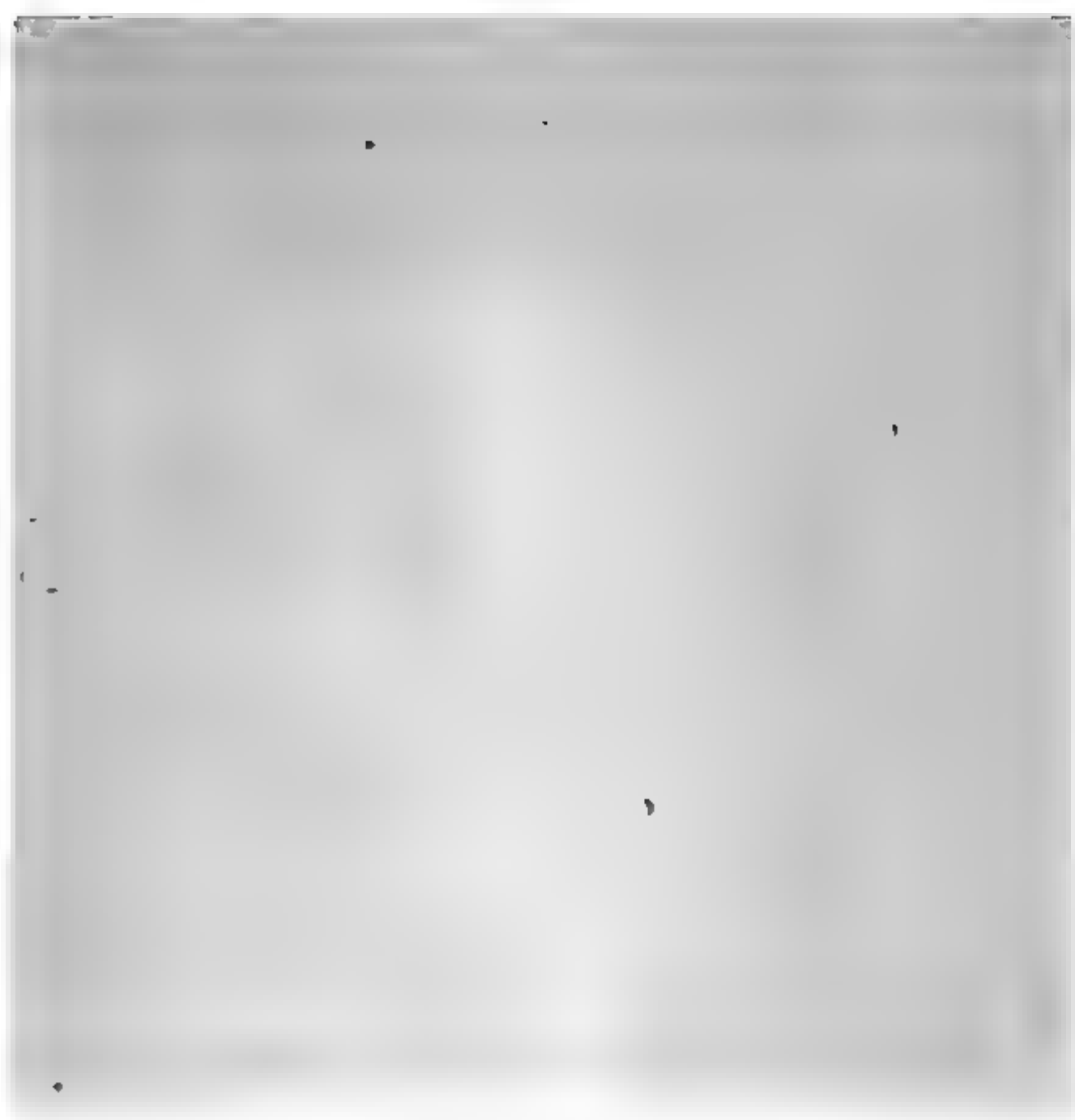
GATHERED in Kensington Gardens, flowering in June. It is very common in wet marshy pastures.

Root perennial, creeping? Stem, erect, hollow, about a foot high, with 3 sharp rough angles. Leaves sheathing the lower part of the stem, and rising about equal to it in height, dark green, narrow, roughish on the edges and nerve, but less so than in most other species. General spike terminal, erect, composed of 5 or 6 upright oval spikelets, the largest of which is terminal. Bractæ solitary, lanceolate, at the base of each spikelet, the lowermost longer than the rest, and ending in a leafy point. In each little spike a few of the lower flowers are male, the rest female. Scales ovato-lanceolate, acute, equal to the corolla. Filaments longer than the scales. Style tumid at the base. Stigmas but two. Permanent corolla slightly notched, convex on one side, margin rough.

We beg leave to correct an inaccuracy in the concluding paragraph of the description of *Carex Pseudo-Cyperus*, t. 242. We have expressed ourselves as if Dr. Goodenough had called the corolla a capsule, in opposition to Linnæus; whereas the truth is, Linnæus carelessly uses *nectarium* and *capsula* indifferently for the same part, and our excellent friend, to whose labours in this genus the British botanist is so much indebted, takes the latter term merely as the least exceptionable. The part in question however is totally distinct from the germen and fruit, merely enveloping the seed, and is really a permanent corolla.







C A R E X remota.

Remote Carex.

NONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets solitary, remote, androgynous, nearly sessile. Bractææ very long, surmounting the stem. Seed-tunic almost entire.

SYN. *Carex remota.* *Linn. Sp. Pl.* 1383. *Sm. Fl. Brit.* 969. *Gooden. Tr. of Linn. Soc.* v. 2. 150. *Huds.* 407. *With.* 88. *Hull.* 205. *Relb.* 351. *Sibth.* 28. *Abbot.* 203.

C. axillaris. *Linn. Sp. Pl.* 1382.

Gramen cyperoides angustifolium, spicis parvis sessilibus in foliorum alis. *Raii Syn.* 424.

A NATIVE of moist groves, and banks of ditches in shady situations, not unfrequent, flowering in May and June.

Root fibrous, perennial. Plant slender and weak, of a pale whitish green. Stem about a foot high, triangular, and









CAREX axillaris.
Axillary Clustered Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale
Cor. none. Female, *Catkin* imbricated. *Cal.* 
 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed
 with a swelling tunic.

SPEC. CHAR. Spikelets remote, sessile, androgynous
 the lowermost compound. Bractea very long 
 Seed-tunic cloven at the point.

SYN. *Carex axillaris.* *Gooden. Tr. of Linn. Soc. v. 2.*
151. t. 19. f. 1. Sm. Pl. Brit. 970. Wub. 89.
Hall. 205.

MR. CURTIS is said to have first discovered this species of
Carex near *Putney*. Mr. Woodward sent our specimen from
Earsham, Norfolk, where it is found about wet ditch banks
 on a soil of strong clay, flowering in the middle of June.

This has probably been often neglected as a luxuriant variety
 of *Carex* *axillaris* because of its being much





11



CAREX incurva.

Curved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets clustered into a head, androgynous; the lower flowers female. *Bractææ* membranous. Stem roundish, smooth. Leaves channelled.

SYN. *Carex incurva.* *Lightf.* 544. *t.* 24. *f.* 1. *Sm.* *Fl. Brit.* 971. *Gooden. Tr. of Linn. Soc.* v. 2. 152. *Huds.* 650. *Willd.* 89. *Hull.* 205.

DR. HOPE received specimens of this *Carex* from the "deep loose sand at the mouth of the water (or river) of Naver, and from near Skelberry in Dunrosness, in Shetland," whence it found a place in the *Flora Scotica*. Professor Beattie has favoured us with specimens from near Aberdeen. It flowers in July.

The root greens. The stems are mostly curved 2 or 4



Asplenium adnigrum L.

21



CAREX arenaria.

Sea Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. — —. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 3 of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets crowded, spiked, almost monocious. Bractææ membranous; the lower ones leafy. Stem triangular. Leaves flat.

SYN. *Carex arenaria.* Linn. *Sp. Pl.* 1381. Sm. *Fl. Brit.* 971. Gooden. *Tr. of Linn. Soc.* v. 2. 153. Hudf. 405. With. 90. t. 20. Hull. 205. Dickf. *H. Sicc. fasc.* 5. 14.

Gramini cyperoidi ex monte Ballon simile humilior, in maritimis et arenosis nascens. *Raii Syn.* 423.

VERY common in the loose sand of the sea shore, where it may be found in flower in June and July.

The root creeps horizontally to a great extent, fixing itself by numerous fibres, and throwing up numerous stems, about a foot high, erect, except when they are overborne by the sand, naked, with 3 sharp angles, roughest in the upper part.





925





C A R E X *intermedia*.
Soft Brown Carex.

MONOECIA *Triandria*.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets crowded into a common spike; the lower and upper ones female; the intermediate ones male. Stem acutely triangular, erect.

SYN. *Carex intermedia*. *Gooden. Tr. of Linn. Soc.* v. 2. 154. *Sm. Fl. Brit.* 972. *With.* 91. *Hull.* 205. *Dicks. H. Sicc. fasc.* 7. 15.

C. disticha. *Huds.* 403. *Retz.* 364. *Sibth.* 26. *Abbot.* 202.

Gramini cyperoidi ex monte Ballon simile; spicâ totali e pluribus spicis compositâ. *Rau Syn.* 423.

NOT unfrequent in marshy meadows and other watery places flowering in May and June.

Root creeping, running deep into the ground. Stems upright, straight, 12 or 18 inches high, triangular, with very sharp, more or less unequal, angles, leafy at the bottom only. Leaves few, nearly upright, shorter than the stem, acute, almost flat, a little rough at the edges and keel. Spike oblong, bluntish, of a rusty brown, soft to the touch, but little compressed and by no means two-ranked, composed of numerous, crowded, ascending, ovate spikelets, of which 2 or 3 of the lowermost, and 1 or 2 of the uppermost, are almost entirely female, the rest nearly as completely, but not absolutely, male. In each spikelet the male flowers are always uppermost. Bractees ovato-lanceolate, membranous, brown, white-edged; the lowest ending in a leafy point. Glumes ovate, acute, brown, with a pale nerve and white edge. Fruit ovate, acute, winged, rough-edged, with a cloven point. Stigmas 2, sometimes 3.



Andropogon furcata, L.





[1096]

CAREX divisa.
Bracteated Marsh Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1
scale. *Cor.* none. Female, *Catkin* imbricated.
Cal. of 1 scale. *Cor.* none. *Stigmas* 2 or 3.
Seed clothed with a swelling tunic.

SPEC. CHAR. Spike once or twice compounded;
spikelets all androgynous. *Bractea* leafy, erect.
Fruit not spreading. Root creeping.

SYN. *Carex divisa.* *Huds.* 405. *Sm. Fl. Brit.* 97.
Gooden. Tr. of Linn. Soc. v. 2. 157. t. 19. f.
Witb. 92. *Hull.* 205.

Gramen cyperoides ex monte Ballon, spica divulsa.
Raii Syn. 423.

THIS rare *Carex* was gathered at Kennington by Mr.
Groult, a very accurate observer. It grows in marshy places,
flowering in May and June, and is most likely to be found not
very far from the sea, or at least within the reach of the fresh
water tide.

Root perennial, creeping horizontally to a considerable extent,
black, strong and twisted. Stems upright, weak, about
a foot high, naked, triangular, roughish in the upper part.

1096



Nov 7 1862 Published by J. S. Sowerby London

1. The first part of the document is a list of names and addresses of the members of the committee.



7

C A R E X muricata.
Greater Prickly Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike oblong, once or twice compounded, prickly; spikelets androgynous. Fruit divaricated, pointed, cloven. Root fibrous.

SYN. *Carex muricata.* *Linn. Sp. Pl.* 1382. *Sm. Fl. Brit.* 974. *Gooden. Tr. of Linn. Soc. v.* 2. 158. *Witb.* 92. *Hull.* 205. *Relb.* 364.

C. spicata. *Huds.* 405. *Sibth.* 27. *Abbot.* 201. *Lightf.* 548.

Gramen cyperoides spicatum minus. *Raii Syn.* 424.

FREQUENT in rather moist pastures and shady places, flowering in May or June.

The root is perennial, fibrous, scarcely creeping. The herbage of a bright green. Stem upright and straight, 12 or 18 inches high, naked except at the base, triangular, the angles rough upwards. Leaves flattish, narrow, taller than the stem, rough on the edges and below. Spikes oblong, once or twice

1097



1874. Painted by J. J. Smith, London



C A R E X *divulsa*.

Grey Carex.

MONŒCIA *Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spike twice compounded, elongated, often branching at the base; the lower spikelets remote; the uppermost clustered. Seeds nearly erect.

SYN. *Carex divulsa*. *Gooden. Tr. Linn. Soc.* v. 2. 160. *Witb.* 93. *Hull.* 205. *Sibth.* 28. *Abbot.* 203.

C. canescens. *Huds.* 405. *Relb.* 351.

Gramen cyperoides spicatum minus, spica longa divulsa feu interrupta. *Raii Syn.* 424.

CAREX *divulsa*, like most of its family, grows in moist places, and more particularly in shady situations; hence its pale greyish-green hue, which has given rise to the English name. The specimen here delineated was found by the late Mr. Rayer, between Rochester and Gravesend, flowering in May. It is not one of the most common kinds.

The root is perennial, fibrous, not creeping. *Stems* 2-6



524





CAREX vulpina.

*Great Carex.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* inflated, permanent, triangular, invested with the corolla.

SPEC. CHAR. Spike thrice compounded, compound oblong, obtuse. Male flowers in each spikelet above the female. Fruit spreading. Angles of the fruit very sharp.

SYN. *Carex vulpina.* *Linn. Sp. Pl.* 1382. *Hudb. An.* 404. *Witb. Bot. Arr.* 1030. *Relb. Cant. Sibth. Ox.* 27. *Gooden. Tr. of Linn. Soc. V.* 2. *Leers Herborn.* 196. t. 14. f. 5.

Gramen cyperoides palustre majus, spica comp. *Raii Syn.* 423.

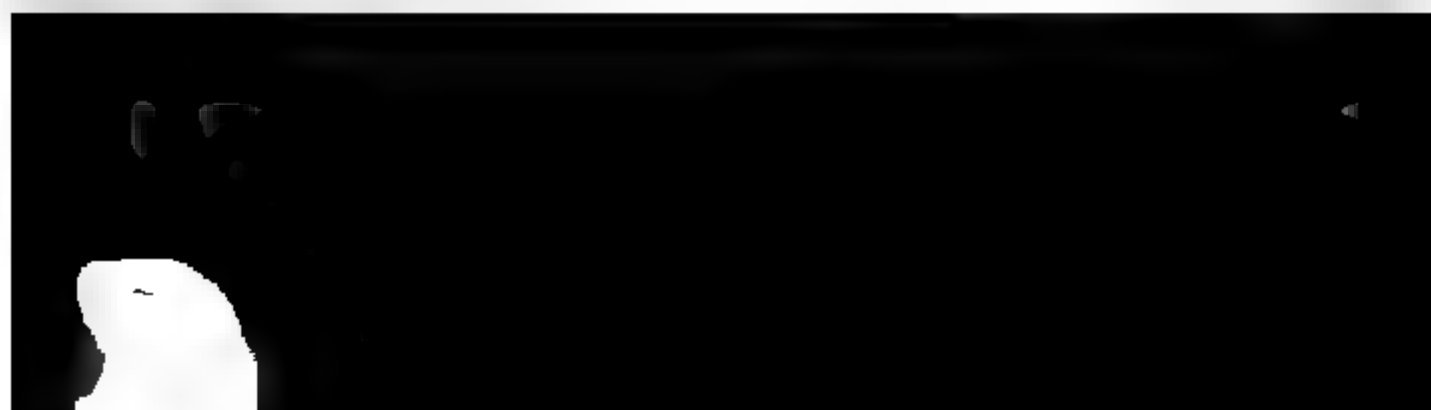
THIS is found, rather less frequently than the last in marshy places, banks of rivers, &c. and is one of the best as well as best understood British species. It flowers in the early part of summer, but its brown spikes in a seedling may be found for some time afterwards.

Root perennial, fibrous, forming thick tufts. Stems erect, about 2 feet high, stout, very acutely triangular and so as to cut the fingers of those who handle them incautiously. Leaves sheathing the lower part with their whitish membranous base, long, deep green, very rough on the edges and on the under surface. General spike of several alternate, rather remote, compound spikelets, with a linear bractea to each. Little spikelets of their male flowers above the female. Scales of the male flowers ovate, acute, membranous; those of the female somewhat rupt, with a longish rough point. Base of the style with Stigmas two. Permanent corolla slightly notched. The fruit above the lowest spikelet, as Dr. Goodenough observes, finally diminishes very much in thickness.

Leers's exquisite figures cannot be too much admired, though perhaps he excels less in some of the *Carex* than in the *grasses*. We mean only to commend his own original figures. Those of the 2d edition are vile copies, in which all the character is lost, and even many parts totally omitted by the blundering engraver.









[1064]

C A R E X pani culata.
Great Panicked Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spike thrice compound, branched, panicked, pointed, interrupted. Fruit spreading, beaked. Stem sharply triangular.

SYN. *Carex paniculata.* *Linn. Sp. Pl.* 1383. *Sm. Fl. Brit.* 978. *Gooden. Tr. of Linn. Soc.* v. 2. 164. *Huds.* 403. *With.* 94. *Hull.* 206. *Relb.* 351. *Sibth.* 28. *Abbot.* 203.

Gramen cyperoides palustre elatius, spicâ longiore laxâ. *Raii Syn.* 422.

NOT rare in spongy bogs and watery shady places, where its large fibrous perennial roots form huge and firm tufts, raised high above the original soil, and in time changing a rotten bog into a grassy, though coarse, meadow. The stems are 2

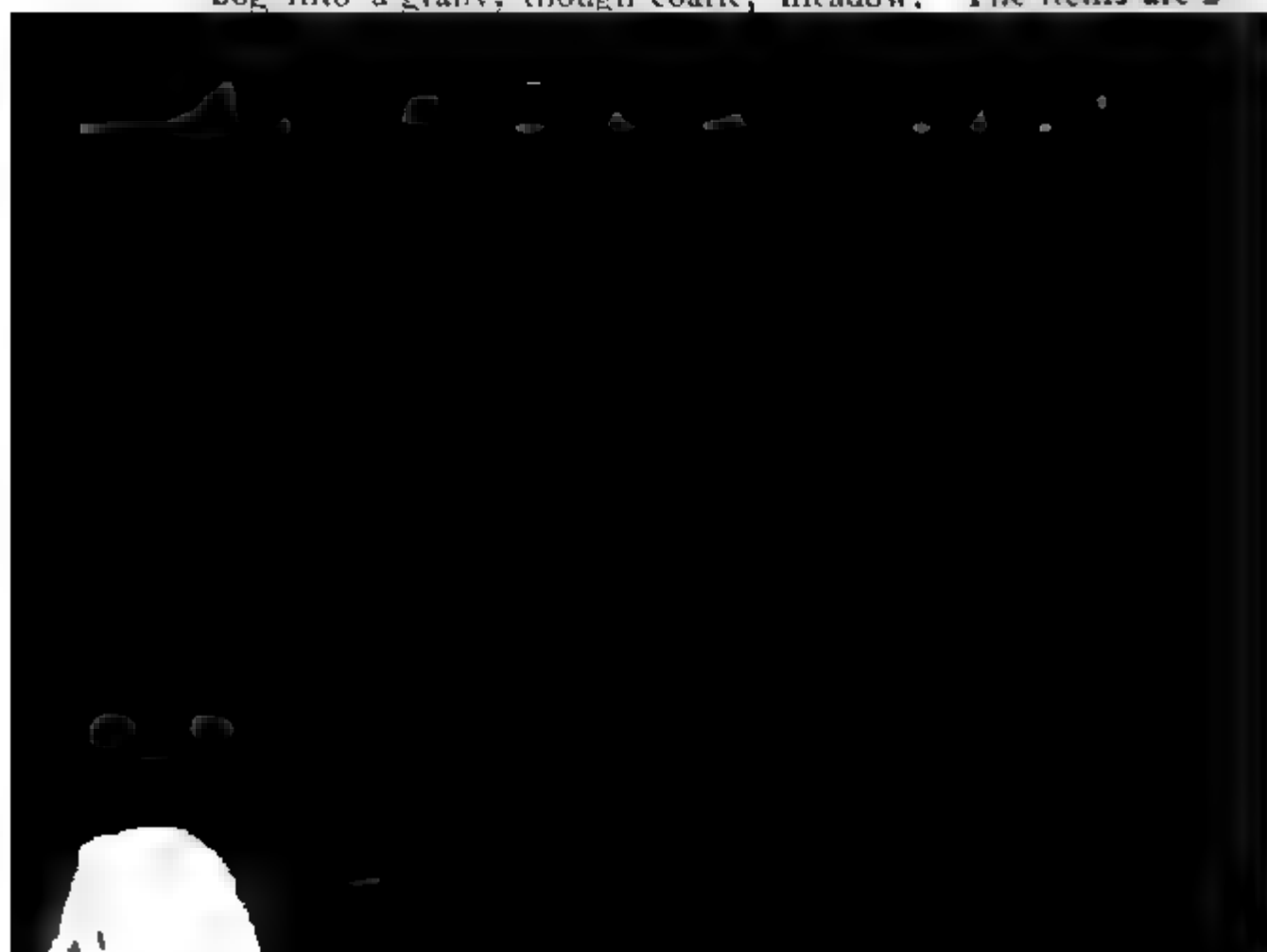






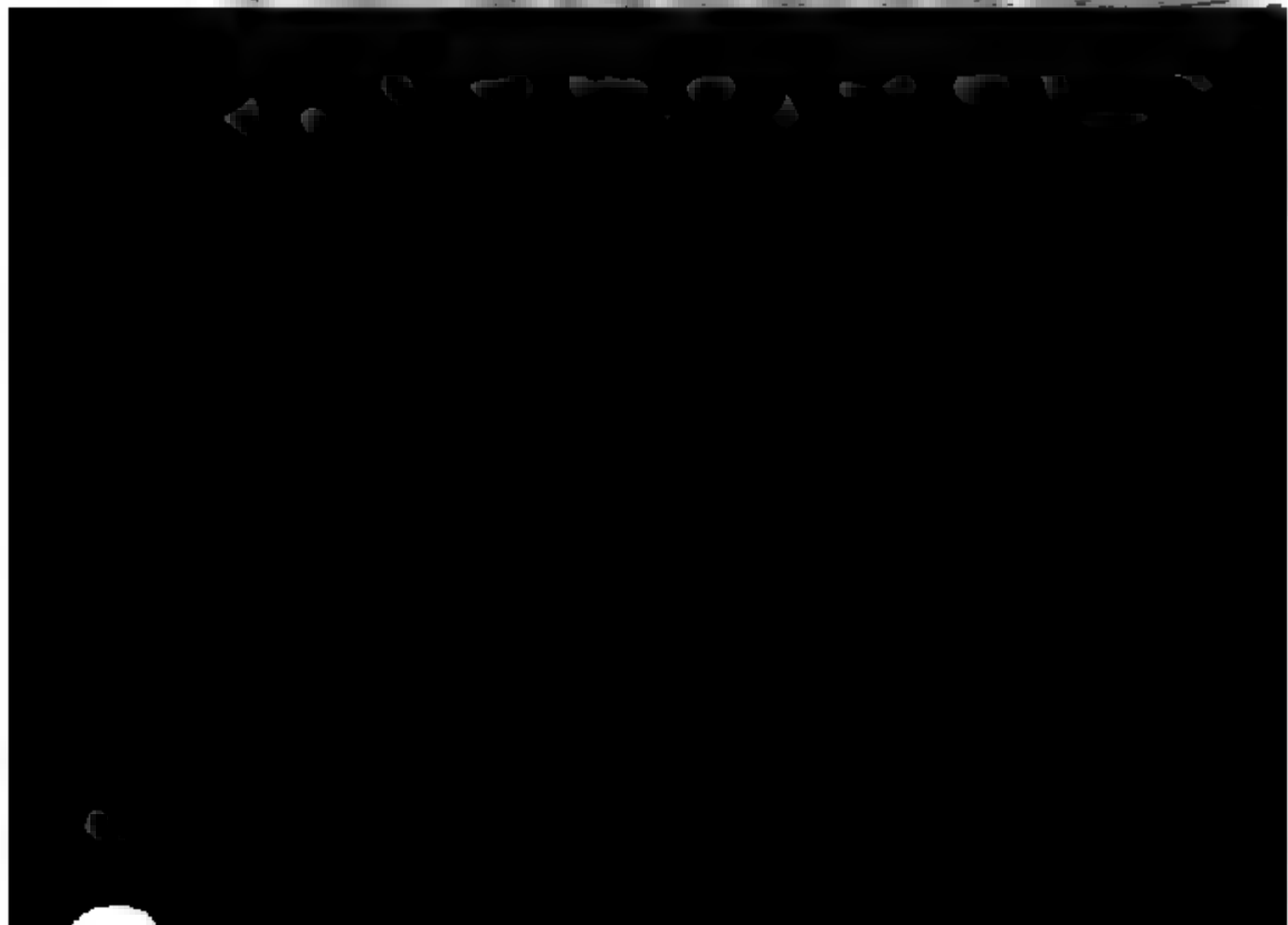
Figure 1 Cont.

Gen. Test. Ventr. Cells imbricated. Cal. of one
 row. In this Female Cells imbricated
 in one row. Cor. mixed, permanent. Sew
 irregular, covered with the corolla.

Spec. Coll. *Fraxin membranacea*, fleecy, leafless, minute. *Stems* erect: the *nodes* *fractured* and *lower*. *Cornicles* *erect*.

Ser. *Onca digitata* *Lin. Sp. P.* 1384. *Bull.* 404.
Wid. 1.5. Ind. nat. Gaud. Trav. of Lin. Soc.
Vol. 2. Pl. Ind. 1.5. 1.5. 1.5. 1.5.

In searching for the *Arctia* tribe, Mr. W. Clifford first



015



Iris sibirica L.



7

C A R E X clandestina.

Dwarf Silvery Carex.

MONOECIA Triandria.

GEN. CHAR. Male, Catkin imbricated. Cal. of one scale. Cor. none. Female, Catkin imbricated Cal. of one scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Bracteas membranous, sheathing, scarcely leafy. Female spikes remote, of few flowers, inclosed in the sheaths. Leaves channelled.

SYN. Carex clandestina. Gooden. Tr. of L. Soc. t. 2. 167 Sm. Fl. Brit. 980. With. 96. Hull. 206. Willd. Sp. Pl. v. 4. 254. Schkuhr. Car. n. 67. t. K. 43.

Cyperoides montanum humile angustifolium, culm veluti folioso spicis obsesso. Scheuchz. Agr. 407 t. 10. f. 1.

GATHERED by Mr. E. Forster in April 1809 by the footpath leading down from Clifton to Bristol hot-wells, in very sunny spot. We have often observed it in similar parts of the neighbouring St. Vincent's rocks, where it was first discovered by Mr. Sole, nor do we know of its growing elsewhere in Britain.

This has very strong deep perennial roots, and flowers early in spring, when its little silvery bracteas are easily seen among the humble stalks and leaves. The whole plant while flowering is only an inch or two high, but the leaves soon grow taller, and are channelled, erect, narrow, very rough-edged. Spikes slender, with reddish silvery-edged glumes. Stigmas 3, very long, separate to the bottom. Fruit obovate, slightly triangular, finely downy when young, entire at the mouth. The male spikes are solitary; female 2 or 3. Sometimes an early female spike throws out a stalk bearing a later male one, as in our specimen. As the fruit ripens, the stem and leaves become greatly lengthened, and the bracteas disappear.



Not republished by P. Harvey, London



[2315]

CAREX pendula.

*Great Pendulous Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, Catkin imbricated. Cal. of scale. Cor. none. Female, Catkin imbricated. Cal. of 1 scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, nearly equal to the flower-stalks. Spikes cylindrical, very long and drooping. Fruit ovate, acute, closely crowded.

SYN. *Carex pendula*. Huds. 411. Sm. Fl. Brit. 98. Gooden. Tr. of Linn. Soc. v. 2. 168. With. 9. Hull, ed. 2. 271. Lightf. 564. Relh. 366. Sibth. 413. Abbot. 206. Curt. Lond. fasc. 3. t. 63.

C. Agastachys. Linn. Suppl. 414. Ehrh. Phyt. n. 1.

Gramen cyperoides, spicâ pendulâ longiore. R. Br.

Syn. 420.

A NATIVE of rather moist woods and bedges, which we have nowhere observed more frequently than within a mile or two of London to the north and west, flowering early in June. Its great size, and long, dense, curved, dependent spikes, composed of vastly more copious fruit than those of any other British *Carex*, well distinguish this species.

The root is fibrous, perennial. Stem from three to five or six feet high, erect, leafy, triangular, its edges rough near the top only. Leaves long and broad, harsh, rough at the edge and keel, of a full green, rather glaucous underneath. Stipula long, narrow and sheathing. Floral leaves with tubular sheaths, nearly as long as the flower-stalks, at least the lower ones. Spikes on shortish stalks, cylindrical, very long, from five to seven, all nearly entirely female, except the terminal one, which also sometimes bears female flowers at its extremity. The scales are rusty, with a pale keel. Anthers long, rusty. Fruit green, a little inflated, triangular, pointed, smooth. Stigmas three. Seed triangular, brown.



See illustration in book 2, p. 100



7

CAREX strigosa.
Loose Pendulous Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

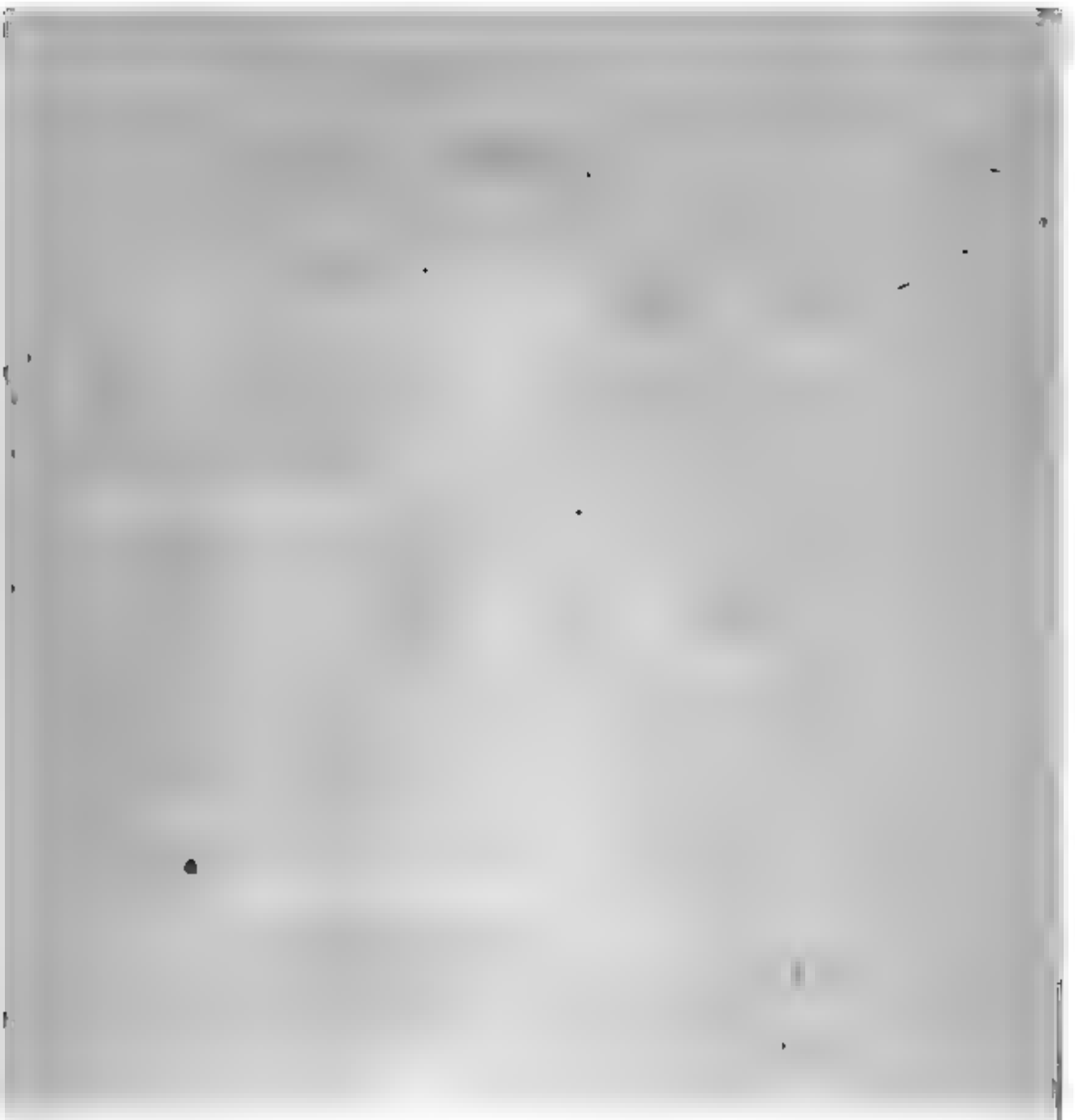
SPEC. CHAR. Sheaths elongated, nearly equal to the flower-stalk. Spikes slender, loose, a little drooping. Fruit lanceolate, triangular, ribbed.

SYN. *Carex strigosa.* *Huds.* 411. *Gooden. Tr.* of *Linn. Soc.* v. 2. 169. t. 20. f. 4. *Sm. Fl. Brit.* 98 2. *Wilt.* 96. *Hull.* 206. *Sibth.* 32. *Abbot.* 20 5. *Gramen cyperoides polystachyon majusculum lan-
 folium, spicis multis longis strigosis. Rati Syn.* 4 11 9.

FEW botanists have seen this *Carex* in its native places of growth, yet it is to be found in woods or groves in several parts of England, as Essex, Oxfordshire, and Bedfordshire; also in Hedenham wood, Norfolk, where Mr. Sene first discovered it many years since. We are obliged for our specimens







CAREX sylvatica.
Pendulous Wood Carex.

MONOECIA Triandria.

GEN. CHAR. Male, Catkin imbricated. Cal. of 1 scale. Cor. none. Female, Catkin imbricated. Cal. of 1 scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths but half as long as the flower-stalk. Spikes slender, a little loose, drooping. Fruit ovate, triangular, beaked, without ribs.

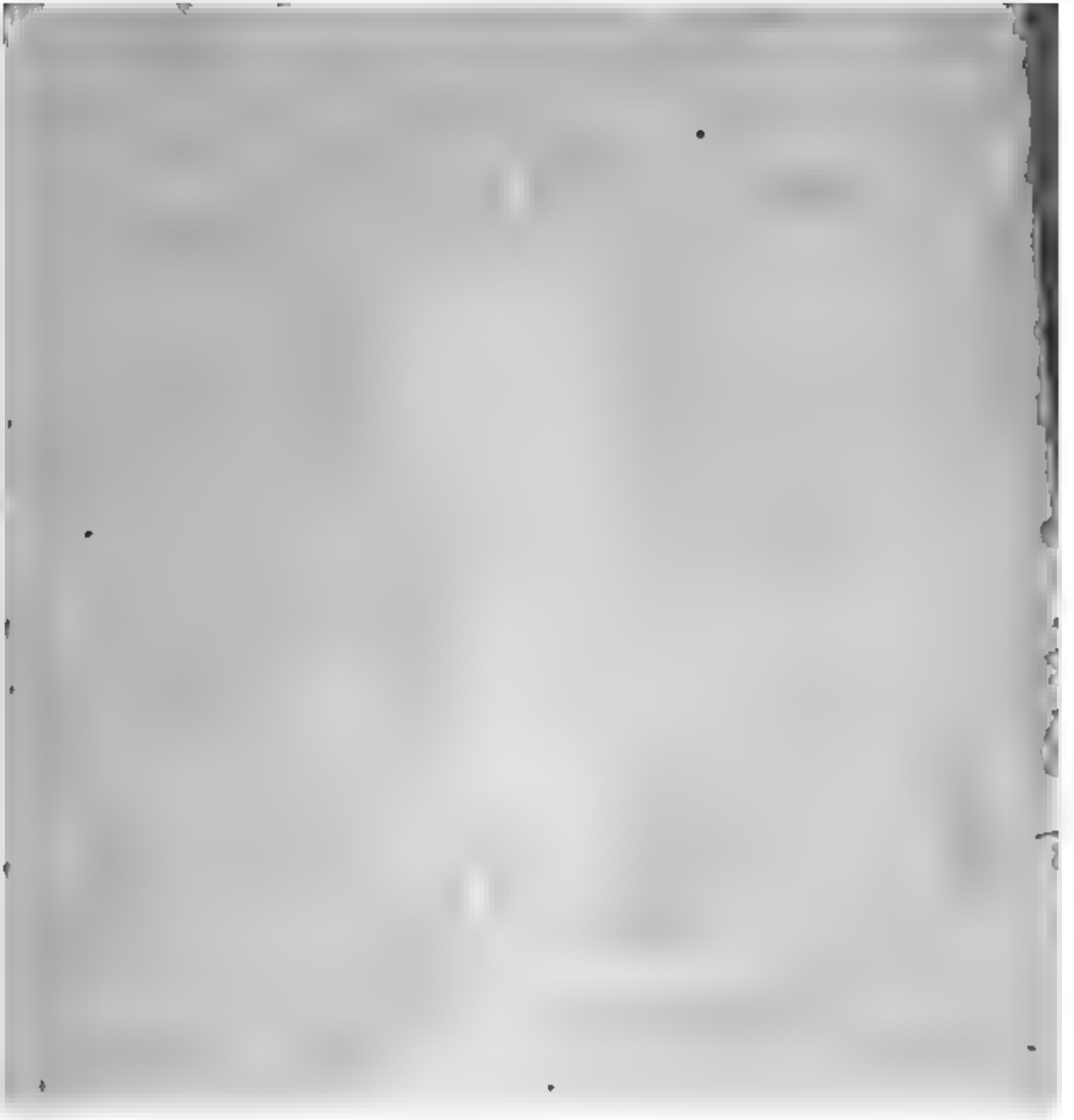
SYN. Carex sylvatica. Hudf. 411. Gooden. Tr. of Linn. Soc. v. 2. 183. Sm. Fl. Brit. 983. With. 102. Hull. 207. Relb. 356. Sibth. 30. Abbot. 105. Dicks. H. Sicc. fasc. 9. 13.

Gramen cyperoides sylvarum, tenuius spicatum. Rostk. Syn. 419.

COMMON throughout Britain in woods or thickets, rather preferring a clay soil, and situations that are wet in winter; flowering in May or June.

This agrees much in habit, stature and foliage with the last, with which therefore most botanists contrast it; but in fact the C. sylvatica is naturally allied to C. vesicaria, levigata, &c.





5

[1098]

C A R E X depauperata.
Starved Wood Carex.

MONOECIA *Trimedia.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths much shorter than the flower-stalk. Female spikes distant, erect, of but few flowers. Fruit inflated, beaked.

SYN. *Carex depauperata.* *Gorden. Tr. of Linn. Soc.* v. 2. 181. *Sm. Fl. Brit.* 984. *Willd.* 102. *Hall.* 207.

C. ventricosa. *Curt. Lond. fasc.* 6. t. 68.

C. triflora. *Willd. Phys. fasc.* 1. 2. t. 1. f. 2.

Cyperoides vesicarium humile, locustis rarioribus.
Turn. Syst. 530.

THE name of *depauperata*, first given to this *Carex*, and retained by Dr. Gordenough, is so much more apt than *ventricosa*, that we are astonished Mr. Curtis should have changed it for the latter, which is equally suitable to many others of the genus. See *Fl. Lond.*

C. depauperata is named in *Turnefort*, as above.



CAREX Mielihoferi.

Loose-spiked Rock Carex.

MONOECIA Triandria.

GEN. CHAR. Male, Catkin imbricated. Cal. of one scale. Cor. none. Female, Catkin imbricated. Cal. of one scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths not half the length of the flower-stalk. Female spikes three, distant, erect, lax and slender. Fruit ovate, triangular, bluntly cloven, twice the length of the obtuse scale.

SYN. Carex Mielihoferi. "Schkuhr Caric. fig. 198." Willd. Sp. Pl. v. 4. 276.

FOUND by Mr. W. Borrer, in August 1810, on the rocky ledges of Craig Challoch, in Breadalbane. We rely, for Schkuhr's synonym, upon Willdenow, who says moreover this is *C. alpina* of Hoppe. It is entirely new to British botanists, and of all our *Carices* is most akin to *depauperata*, t. 1098, though abundantly distinct from that and every other in our Flora.

The root appears to be creeping or stoloniferous. Stems about a foot high, smooth, roundish. Leaves chiefly radical, flat, smooth, with acute stipulas. Bractees nearly the length of the slender flowerstalks, erect, acute; their sheathing part about one third of the whole. Female spikes three, upright, lax, the lowermost consisting of about a dozen flowers, the uppermost of half as many; their glumes broad, rounded and bluntish, red-brown, with a broad yellowish rib. Stigmas three. Fruit green, ovate, slender, incurved, triangular, roughish-edged, its orifice rounded and cloven. Male spike solitary, terminal, erect, oblong, bluntish, of numerous, ob-ovate, red-brown scales, much longer than those of the females. Stamens three, whitish.

2293



For detailed view of the pistil



CAREX capillaris.

Capillary Carex.

MONOECIA Triandria.

GEN. CHAR. Male, Catkin imbricated. Cal. of one scale. Cor. none. Female, Catkin imbricated. Cal. of one scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Common sheath but half the length of the flower-stalks. Female spikes ovate, rather loose, drooping. Fruit sharp-pointed.

SYN. Carex capillaris. Linn. Sp. Pl. 1386. Sm. Fl. Brit. 985. Gooden. Tr. of L. Soc. v. 2. 180. Lightf. 557. Huds. 651. With. 101. Hull. 207. Dicks. H. Sicc. fasc. 9. 14. Winch. Guide. v. 1. 84.

Cyperoides alpinum, spicis seminiferis pendulis, binis in summo caule. Seguier. Veron. v. 3. 83. t. 3. f. 1.

THE Rev. Dr. Stuart found this rare *Carex* on some of the Highland mountains of Breadalbane, and communicated it to Mr. Lightfoot, through whom it first became known as a Scottish plant. It has since been sent to Mr. Sowerby from the county of Durham, by the Rev. Mr. Harriman. It usually grows in bushy rather moist places, flowering in July or August.

Root perennial, fibrous. Stem erect, 3 or 4 inches high, roundish, striated, smooth, naked, or nearly so. Leaves scarcely 3 inches long, mostly radical, narrow, acute, dark-green, slightly keeled, rough-edged towards the top only. Principal bractea like the leaves but smaller, terminating the stem, erect, sheathing at the base, embracing a few smaller inner ones, along with all the flower-stalks, which are about twice its own length, 3 or 4 in number, capillary, triangular, rough, sometimes separated from each other by an accidental elongation of the stem. Male spike erect, linear, pale, of about 10 flowers: female 2 or 3, drooping or pendulous, ovate, lax, not half an inch long. Glumes ovate, brown, pale-edged. Stigmas 3. Fruit dark-brown, ovate, triangular, smooth, with a sharp beak. Seed elliptical, with 3 sharp angles.

2009



Illustrated by J. K. Smith

1



CAREX rariflora.

Loose-flowered Alpine Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short. Female spikes nearly linear, pendulous; their scales loosely imbricated. Fruit obovate, with three blunt angles and depressed sides. Root creeping.

SYN. *Carex limosa* γ , *rariflora*. *Wahlenb.* in *Stock. Trans.* for 1803. 162. *Willd.* *Sp. Pl.* v. 4. 294.

DISCOVERED in 1807, by Mr. G. Don, on a mountain at the head of a glen called the Dell, among the mountains of Clova, Angusshire, near the limits of perpetual snow. Its acute discoverer wished therefore to have named the species *C. nivalis*; but we think it incumbent on us to retain the appellation by which this plant is marked, very unaccountably indeed, as a variety of *C. limosa*, t. 2043, in the above works. We have authentic specimens from Mr. Wahlenberg, precisely like Mr. Don's.

Surely few *Carices* can be more distinct than this and *limosa*. They agree indeed in the creeping root, short sheaths of the bracteas, and drooping female spikes; but the present is in every part much smaller, and the shape of the female spikes, composed of a few remarkably lax, or distant, scales, blacker than in *limosa*, marks a sufficient difference. The fruit is obovate, not broad and compressed.



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III. Pseudo-Cyperus.

Pseudo-Cyperus *Cyperus*.

Pseudo-Cyperus *Tenax*.

Leaves linear imbricated. *Cal.* of one
Female. *Culm* imbricated.
Nectary inflated, cloven.
Spike triangular, invested with the

Leaves loosely sheathing. Female
in flower-stalks. pendulous.
Nectary flattened. Nectary tapering

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1387.

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

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Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

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Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

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Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

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Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*

Pseudo-Cyperus *Tenax*. *Less. Sp. Pl.* 1045. *Rd.*





[2043]

CAREX limosa.
Green and gold Carex.

NOVÆLLA Tumbra.

Carex Chama. Male. *Carex imbricata*. Cal. of one
scale. Cor. none. Female, *Carex imbricata*.
Cal. of one scale. Cor. none. Stigmas 2 or 3.
Seed naked with a swelling beak.

Spec. Carex. Stems extremely short, scarcely any.
Female spikes erect, pendulous. Fruit elliptical,
compressed. Root creeping.

Sex. *Carex limosa*. *Less. N. Pl.* 1386. *Sm. F.*
Brit. Bot. Gazer. Tr. of Less. Soc. v. 2. 18
Flora. 1825. Willd. Bot. Hort. Berol. Light. 55

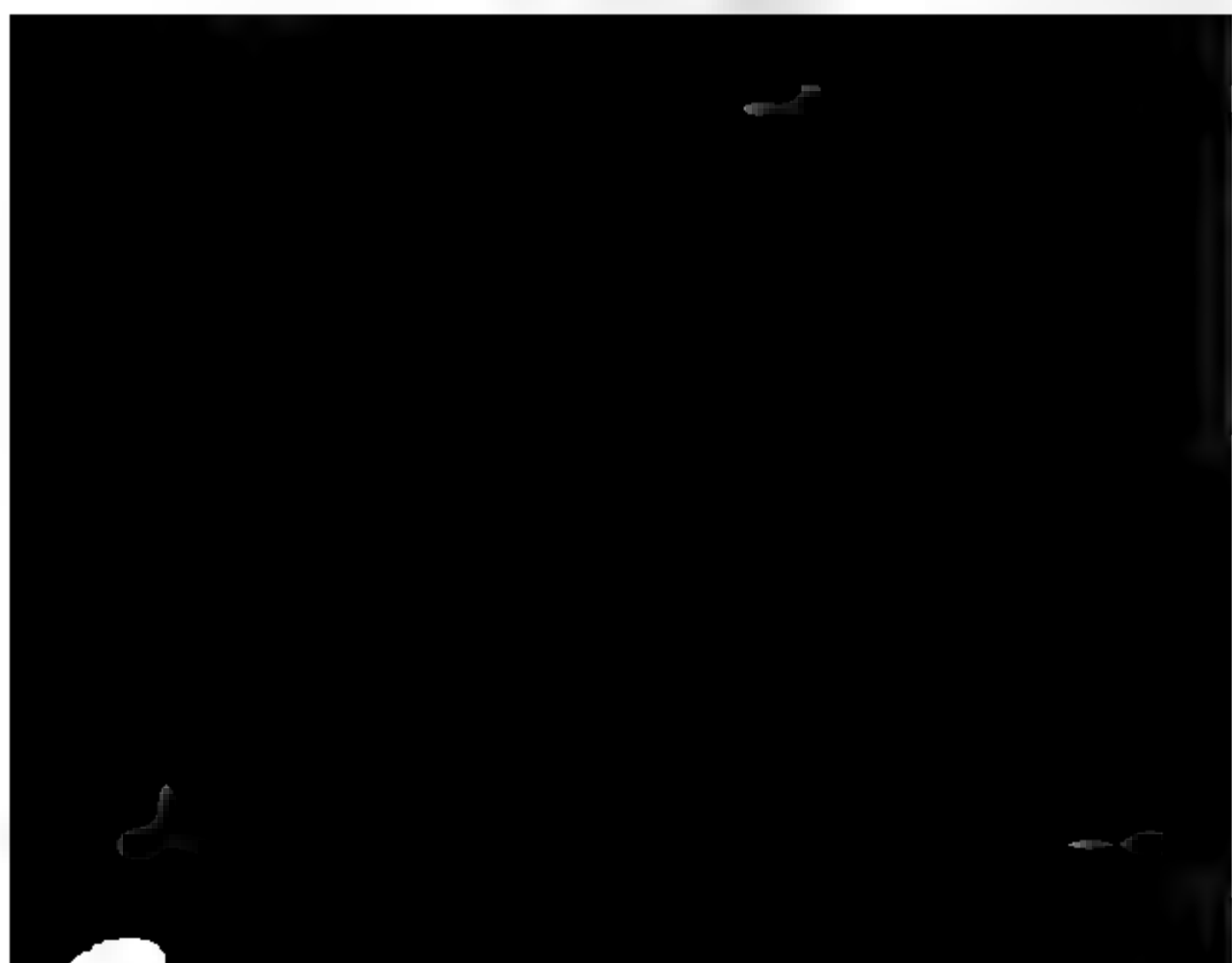
*Cyperus spin. pendul. brevior. squamis e spadice
vel fusco rubente variegatus. Schreb. Agr. 44
t. 12. f. 13.*

THIS one of our most elegant species of *Carex*, especially
from the beautiful hue of its spikes, is found only in deep black
rotten bogs, chiefly in Scotland and the north of England.
Mr. G. Don sent it from near Forfar. The late Rev. Mr.
Bryan and Mr. Woodward have found it a few miles north
of Norwich, in a tract of country once rich in botanical trea-
sures, but now more useful to the farmer. It flowers in June
but rarely, at least in Norfolk.

The long creeping perennial roots, sheathed with black
scales, send very long woody fibres down deep into the mud.
The herbage is rather glaucous. Stems ascending, triangular,
a span high, rough, leafy at the base. Leaves narrow,
acute, keeled, rough-edged, shorter than the stems. Bracts
like the leaves but much smaller, with a brown, abrupt
white-edged, very short sheath. Male spike terminal, erect,
lanceolate, with many elliptical acute glumes, of a brown
and golden hue. Female spikes 1 or 2, on longish, smooth,
drooping stalks, ovate, of many broadly elliptical acute scales
variegated with green, brown and gold. Fruit elliptical, broad
compressed, glaucous, ribbed, smooth, with scarcely a
beak. Stigmas 3. Germen and seed triangular, scarcely
compressed.



Polystichum bulbosum L. by J. S. W. London





[2404]

CAREX ustulata.

Scorched alpine Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkins* imbricated. Cal. of one scale. Cor. none. Female, *Catkins* imbricated. Cal. of one scale. Cor. none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths very short. Female spike ovate, pendulous. Fruit elliptical, compressed, beaked, with sharp and roughish edges. Root fibrous.

SYN. *Carex ustulata*. Willd. *Sp. Pl.* v. 4. 293. *Walt.* in Sims & Ken. *Ann. of Bot.* t. 2. 130.
C. atro-fusca. Schultze. *Car.* 106. t. V. n. 82.

GATHERED in watery places in a micaceous soil on the mountain of Ben Lawers, by Mr. Geo. Don, the only person



2404



Iris sibirica



[2044]

CAREX atrata.
Black Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Stamens two or three. Sheaths scarcely any. Spikes ovate, stalked, pendulous; the terminal one male in the lower part. Fruit compressed. Root fibrous.

SYN. *Carex atrata.* Linn. *Sp. Pl.* 1386. Sm. *Fl. Brit.* 987. Gooden. *Tr. of Linn. Soc.* v. 2. 189. Huds. 409. With. 105. Hull. 208. Lightf. 555. Dicks. *Dr. Pl.* 87. *Fl. Dan.* t. 158.

Cyperoides alpinum pulchrum, foliis caryophyllæis, spicis atris et tumentibus. Scheuchz. *Agr.* 481. t. 11. f. 1, 2.

GATHERED by Mr. G. Don on rocks in Breadalbane. Mr. Lightfoot says it is frequent on the Highland mountains, and Mr. Hudson on the Welch ones; but we have reason to think they did not then distinguish all the species, so well explained in the present Bishop of Carlisle's excellent paper, especially his Lordship's *rigida* and *pulla*.

C. atrata is, of course, perennial, flowering in June and July. It is one of the larger and more conspicuous alpine species, nor can it be overlooked. The root is fibrous, naked, hardly creeping. Stem erect, a foot and more in height, triangular, striated, scarcely rough-edged, naked except the bottom. Herbage of a bright grass green. Leaves broad, flat, rough-edged, shorter than the stem. Bractees leafy, with auricles rather than any sheaths. Spikes mostly 4, on smooth stalks, ovate, thick and obtuse, soon pendulous, formed of numerous ovate, acute, very dark scales. The terminal one consists of several male flowers in its lower part, the upper ones, as well as all the flowers of the other spikes, being female, except that stamens are now and then found in the same flower with a pistil. The stamens are usually thought to be 2, but Mr. Sowerby often finds 3. Stigmas always 3. Fruit elliptical, broad, compressed, yellowish, smooth, ribless, with a notched beak. Seed triangular, short, brown.



July 1 - repeated by the same person



[2045]

C A R E X pulla.
Russet Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Sheaths* none. *Spikes* ovate; the lower one stalked. *Fruit* elliptical, inflated, with a short notched beak.

SYN. *Carex pulla.* *Gooden. Tr. of Linn. Soc. v. 3. 78. t. 14. Sm. Fl. Brit. 988. Hull. 208.*

COMMUNICATED wild from the mountain of Ben Lawers by our lamented friend Mr. J. Mackay, at different times, several years ago. It flowers in July, and is perennial.

Root creeping, with thick fibres. Stem ascending or erect, about a span high, triangular, striated, the angles rough in

2143.



Chrysomelid published by J. A. Smith, London.





CAREX *pallescens.*

Pale Cores.

MONOECIA *Trinob.*

Gen. Cal. 2. Male, Cathin imbricated. Cal. of 1
scale. Car. none. Female, Cathin imbricated.
Cal. of 1 scale. Car. none. Stigmas 2 or 3.
Neri clothed with a swelling tunic.

STEM. LEAF. Sheath very short. Spikes cylindrical, ~~sub-erect~~ when in fruit pendulous. Fruit elliptical, ~~indurated~~ obtuse.

Styx. Carex pallenscens. Linn. Sp. Pl. 1336. Sm. Fl. Br. L. 389. Gouan. Tr. of Linn. Soc. v. 2. 186. Fruits. 410. Willd. 103. Hall. 203. Lightf. 558. Nash. 383. Savi. 22. Altoc. 204. Dick. Fl. Nov. 1800. & 10. Schimper. n. 92. t. Kk. f. 99.

*Grasses cyperoides polystachyon flavicans, spica bre-
vius recte summum est culm. Rostk Syn. 419.*

COMMON It thrives in groves and pastures, flowering in May and June. It is common to the mountains of the West when in



Fig. 1. Iris sibirica L. var. sibirica



[1294]

CAREX flava.

Yellow Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalks. Female spikes roundish. Fruit beaked, curved downwards. Stem nearly smooth.

SYN. *Carex flava.* Linn. *Sp. Pl.* 1384. Sm. *Fl. Brit.* 990. Gooden. *Tr. of Linn. Soc.* v. 2. 173. Huds. 407. With. 98. Hull. 207. Lightf. 551. Relh. 367. Sibth. 29. Abbot. 204. Dicks. *H. Sicc. fasc.* 3. 14. Schkuhr. n. 60. t. H. f. 36. *Gramen palustre echinatum.* Raii *Syn.* 421.

FREQUENT in boggy meadows, where it flowers in May and June, and may readily be discerned at a distance by its yellow hue, especially as it approaches to maturity. It grows

1204



Iris sibirica L.

1

24



[1295]

CAREX fulva.

Tawny Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths long, but shorter than the flower-stalks. Female spikes ovate. Fruit beaked, straight. Stem rough.

SYN. *Carex fulva*. Gooden. *Tr. of Linn. Soc.* v. 2. 177. t. 20. f. 6. v. 3. 77. *Sm. Fl. Brit.* 991.

THIS new species was first described and figured by Dr. Goodenough, from specimens gathered in Shropshire by the Rev. Mr. Williams. Mr. Gotobed has since found it near Eton, Mr. Winch at Newcastle, and several of our friends have sent it from Scotland. It is perennial, growing in marshes, and flowering in June or July.

Root creeping. Stem erect, slender, about a foot high, triangular, the angles sharp and very rough, at least in all the upper part. Leaves upright, narrow, shorter than the stem, rough at the edges and keel, but not on the upper side. Bractæ with longish brown-tipped sheaths, their points not rising above the stem. Male spike linear. Female ones 2, rarely 3, tawny, ovate, erect, remote, on stalks which are about half as long again as their sheaths. Glumes ovate, never awned, obscurely nerved. Fruit longer than the glumes, brownish, pointing upwards (not recurved), beaked, smooth, except at the edges of the beak, cloven at the tip. Seed yellowish brown, twice as large as in the preceding.

Some erroneous specimens led the accurate Dr. Goodenough to reduce this (in *L. Trans.* v. 3.) to a variety of *C. flava*, but we have traced the cause of this mistake. *C. fulva* is rather more akin to *distans*, t. 1234, but smaller, and distinguished by its rough stem, glumes without any awns, and longer-beaked rough-edged fruit.

2295



1. The first part of the document is a list of names and dates, which appears to be a record of some kind. The names are written in a cursive script, and the dates are in a more formal, printed style. The list is organized into two columns, with names on the left and dates on the right. The names are: John Smith, James Brown, William Jones, and Thomas White. The dates are: 1812, 1813, 1814, and 1815. The list is followed by a section of text that is also written in cursive. This text appears to be a description of the events that took place during the period covered by the list. It mentions the names of the individuals listed and describes their actions and the circumstances surrounding them. The text is written in a clear, legible hand, and it provides a detailed account of the events. The final part of the document is a signature, which is written in a cursive script. The signature is of the person who compiled the list and wrote the accompanying text. It is a clear and distinct signature, and it is followed by the date 1816.



C

[1773]

C A R E X Oederi.
Oederian Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalks. Female spikes roundish. Fruit globose with a straight beak, spreading in all directions. Stem smooth.

SYN. *Carex Oederi.* *Ehrh. Calam.* 79. *Schkuhr. n.* 55. *t. F. f.* 26. *Turn. and Dillw. Bot. Guide,* 65. 446. 566. 715.

C. extensa. *Relh.* 367. *Teesd. Tr. of L. Soc. v. 5.* 69.

SENT from Norfolk in July last by Mr. Turner, who mentions it as frequent on all the moist commons about Yarmouth. The synonym of *Relhan* stands on the authority of this gentleman; that of *Teesdale* is decided by specimens sent from Beverley by their late worthy finder, which agree

7773



Agave salicifolia (L.) R. & P. *Agave salicifolia* (L.) R. & P.

11

.



C A R E X *extensa*.
Long-bracted Carex.

MONOECIA *Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Bractææ* very long, with very short sheaths and flower-stalks. Female-spikes roundish. Fruit ovate. Stem smooth.

SYN. *Carex extensa.* Gooden. *Tr. of Linn. Soc.* v. 2. 175. t. 21. f. 7. and v. 3. 77. *Sm. Fl. Brit.* 992. *With* 99. *Hull.* 207.

Cyperoides echinatum majus. *Dill. in Raii Syn* 421.

THIS *Carex*, when first found by the Rev. Mr. Bryant on Cley beach, Norfolk, in 1776, was taken for the *filiformis* of Linnæus. Other specimens were afterwards referred by botanists to the *C. flava*. At length Dr. Goodenough, having examined the plant in a living state in Devonshire and near Harwich, published it by the name of *extensa* as a new



8.12

CAREX distans.

*Loose Carex.**MONOECLA Triandra*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPRC. CHAR. Sheaths elongated, nearly as long as the flower-stalks. Spikes oblong, very remote. Scales pointed. Stem smooth.

SYN. *Carex distans.* *Linn. Sp. Pl.* 1387. *Sm. Fl. Brit.* 993. *Gooden. Tr. of Linn. Soc. v.* 2. 178. *Huds.* 412. *With.* 100. *Hull.* 207. *Relh.* 368. *Sibth.* 31. *Abbot.* 202. *Schkuhr. n.* 87. *t. T. f.* 68. *Gramen cyperoides spicis parvis longissimè distantibus.* *Raii Syn.* 420.

THIS *Carex* most frequently occurs in such marshy places as are not remote from the sea, but it is sometimes found in mountainous countries. Our specimen grew at Yarmouth. It is perennial, and flowers in June.

Root fibrous. Stem 12 to 18 inches high, weak but nearly



After J. Ellis. Published by J. L. Smiley, London



[1235]

CAREX binervis.

*Green-ribbed Carex.**MONOECIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, shorter than the flower-stalks. Spikes cylindrical, remote, often compound. Scales pointed. Fruit with two principal ribs.

SYN. *Carex binervis.* *Sm. Tr. of Linn. Soc. v. 5. 268. Fl. Brit. 993.*

C. distans. *Lightf. 561.*

WE have received this from Mr. Brunton, who gathered it near Rippon, and from various parts of Britain. Prof. Beattie informs us that it is very common on the driest moors or heaths about Aberdeen, flowering in June. From Lightfoot's description it appears to be his *C. distans*, and indeed the best botan-

Tab 1236



No. 1 1803 Adapted to L. Saurer London





[1099]

CAREX præcox.
Vernal Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths short, nearly equal to the flower-stalk. Spikes ovate, rather clustered. Glumes tipped with a small point. Fruit roundish, downy.

SYN. *Carex præcox.* Sm. *Fl. Brit.* 994. *Gooden. Tr. of Linn. Soc.* v. 2. 170. *With.* 97. *Hull.* 206. *Relb.* 367. *Sibth.* 29. *Abbot.* 205.

C. saxatilis. Hudf. 408.

Gramen cyperoides vernal minimum. Raii *Syn.* 421.

DRY pastures, heaths, and exposed situations abound with this *Carex*, which is rendered conspicuous in the spring by its numerous tufted yellow antheræ. It is the earliest of its genus, in this country as well as in Germany. The name of *præcox* was first given, we believe, by the celebrated Professor Schreber, for Linnæus never determined this species, and our British botanists erroneously considered it as either the *saxatilis* or *montana* of the illustrious Swede.

Its perennial root creeps, and branches out into several leafy tufts. The stem ascends obliquely to the height of from 3 to 6 inches, and is firm, triangular, smooth and naked. Leaves radical, short, rigid, acute, recurved, roughish, especially at the edges. Bractææ erect, often wanting; their sheaths short, dilated upwards. Male spike obovate, and rather obtuse, especially when the antheræ are not expanded. Glumes elliptical or ovate, those of the female florets more particularly pointed. Female spikes about two, erect, near together, on shortish stalks. Fruit roundish, or somewhat pear-shaped, downy, green tipped with brown, scarcely so long as the glumes. Stigmas three. Seed whitish, triangular.





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[2046]

CAREX tomentosa.

Downy-fruited Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Sheaths extremely short. Female spikes nearly sessile, cylindrical, obtuse. Glumes elliptical, acute. Fruit downy.

SYN. *Carex tomentosa*. Linn. Mant. 123. Sm. Fl. Brit. 996. Tr. of Linn. Soc. v. 5. 269. Leert. 200. t. 15. f. 7. Dicks. Dr. Pl. 43.

THE late Mr. Robert Teesdale, F.L.S., a most acute and indefatigable British botanist, is the only person, to the best of our knowledge, who ever gathered this species of *Carex* in Britain. He found it, flowering in June, in meadows near Merstone Measey, Wiltshire, in 1799, and thus its name is restored to the list of British plants, from which it had been erased since the learned Bishop of Carlisle discovered the *C. tomentosa* of Lightfoot and Hudson to be the *Lionzan filiformis*.

The root creeps, with long and compound fibres. The stems are a foot or more in height, erect, naked, with three sharp angles rough upwards. Leaves shorter than the stem, upright, flat, grass-green, rough on both sides and at the edges. Bractees leafy, rather spreading, the longest rising somewhat above the stem, with scarcely any sheath. Male spike lanceolate, bluntish, with lanceolate, rusty scales having green keels, the upper ones occasionally pointed. Female spikes usually two, not very distant, almost sessile, cylindrical, blunt, various in length, their glumes elliptic-ovate, slightly pointed, rusty with broad green keels. Fruit about as long as the scales, crowded, roundish, scarcely at all compressed and but slightly triangular, green clothed with short dense whitish down, which turns tawny by long keeping. The beak is short and cloven. Seed pale, obscurely triangular.

2065
1



Chapmania ...



CAREX rigida.
Rigid Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Cathin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Sheaths* none. *Spikes* ovate; the upper ones sessile. *Leaves* rigid and somewhat recurved. *Fruit* rather compressed, entire.

SYN. *Carex rigida.* Gooden. *Tr. of Linn. Soc.* t. 2. 193. t. 22. f. 10. *Sm. Fl. Brit.* 997. *With.* 106. *Hull.* 208.

C. saxatilis. *Fl. Dan.* t. 159.

Cyperoides germanicum, foliis brevibus rigidis acutis, caule rotundo-triquetro, spicis parvis, squamis obtusè mucronatis, capsulis oblongis turbinatis, in angustum et longiusculum apicem attenuatis. *Mich. Gen.* 61. t. 32. f. 4.

WHEN I showed the late Mr. Hudson my original specimen of this *Carex*, gathered on the top of Ben Lomond in 1782, and called *saxatilis* by the Scottish botanists, he told me he had found the same on Snowdon. It is not however his *saxatilis*, which is *præcox* of *Fl. Brit.* The present Bishop of Carlisle first clearly distinguished and named the plant before us. Mr. Mackay sent our specimen.

It grows on the exposed summits of the loftiest mountains, flowering in June or July, and is known by its rigid firm habit and recurved leaves. The root is creeping, with thick downy fibres. Stem from 3 to 6 inches high, mostly incurved, with three sharp rough angles. Leaves rigid, somewhat glaucous, permanent, with rough edges and keel. Bractea generally shorter than the stem, auricled at the base. Male spike mostly solitary, short, thick, ovate, blunt, with abrupt pointless glumes of a dark brown, with a pale narrow keel. Female spikes generally 3, ovate, the 2 upper ones sessile near the male; the other distant, on a short stalk, erect, with elliptical blunt glumes. Fruit crowded, compressed; smooth, longer than the glumes, brown where exposed, entire, sometimes beaked. *Stigmas* 2.

2047



1899 published by J. E. Smith, London.



[1505]

CAREX panicea.
Pink-leaved Carex.

MONOECIA *Trinobria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Sheaths elongated, about half the length of the flower-stalks. Female spikes rather loose, distant. Fruit inflated. Stem smooth.

SYN. *Carex panicea.* *Linn. Sp. Pl.* 1387. *Sm. Fl. Brit.* 993. *Gooden. Tr. of L. Soc.* v. 2. 179. *Huds.* 410. *Wuth.* 100. *Hull.* 207. *Relh.* 368. *Sibth.* 30. *Abbot.* 205. *Schkuhr. Car. n.* 93. t. L, l. f. 100.

Gramen cyperoides, foliis caryophylleis, spicis e rarioribus et tumidioribus granis compositis. Raii Syn. 418. *Pluk. Phyt. t.* 91. f. 7.

NOT uncommon in moist pastures and meadows, flowering in May and June.

Root creeping, blackish. Stem erect, 10 to 15 inches high,



1805





[1506]

CAREX recurva.
Glaucous Heath Carex.

MONOCLE Trinobis.

Grass Carex. Male, *Cochis imbricatus*. Cal. of one
 scale. Cor. none. Female, *Cochis imbricatus*.
 Cal. of one scale. Cor. none. Stigmas 2 or 3.
 Siliqua closed with a swelling base.

Small Carex. *Stenota sinuata*. Female spikes cylindrical,
 perianthous. Fruit elliptical, triangular, roughish.
Root creeping.

Small Carex recurva. *Flora* 413. *Sa. Pl. Brit.* 999.
Garden. F. & L. Soc. L. 2 184. *Wick* 102.
Fla. 278. *Reh.* 369. *Sinch* 51. *Actae* 206.
P. Soc. 2 185.

Carex recurva, *Trinobis* *curvifolia*, *spica oblonga*
& pediculis imbricatis peristylis. *Bot. Syn.* 418.

VERY common in marshes. grows and the main parts of
 very heavy roots, where the short glaucous leaves render it
 very common in marshes, where it grows in the water.





2

1

CAREX Micheliana.
Blunt-fruited Black Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes upright, cylindrical; the female ones stalked. Glumes all obtuse and pointless. Fruit obovate, very blunt.

SYN. *Carex Micheliana.* *Sm. Tr. of Linn. Soc.* v. 5. 270. *Fl. Brit.* 1004.

C. ambleocarpa. *Willd. Sp. Pl.* v. 4. 307.

Cyperoides foliis caryophylleis, caule exquisitè triangulari, spicis habitioribus, squamis curtis, obtusè mucronatis, capsulis turbinatis brevibus confertis. *Mich. Gen.* 62. t. 32. f. 12.

THE introduction of this, as a distinct species, into the *Flora Britannica* having led botanists into a mistake, we judge it right to lay before them all the sources of our error, by exhibiting a plate of the specimen on which it was founded.



2230



per... f... ..



107



Herb. Mus. published by the University of London

CAREX stricta.
Glaucous straight-leaved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. *Stigmas* two. *Bractææ* not sheathing, slightly auricled. *Spikes* nearly sessile, cylindrical, elongated, acute. *Fruit* deciduous.

SYN. *Carex stricta.* *Gooden. Tr. of Linn. Soc. v. 1. 196. t. 21. f. 9. Sm. Fl. Brit. 1000. Wtth. 107. Hull. 208.*

C. cæspitosa. *Huds. 412. Lightf. 561, β.*

Gramen cyperoides foliis caryophylleis, spicis erectis sessilibus, e seminibus confertis compositis. Raii Syn. 418.

THIS *Carex*, though known to Ray, has not been generally distinguished by modern botanists from the *cæspitosa*, till Dr. Goodenough clearly discriminated them in his excellent paper. They agree in having only 2 stigmas, no sheaths to

914





[580]

C A R E X acuta.

*Slender-spiked Carex.**MONŒCIA Triandria.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Stigmas two. Spikes cylindrical, slender; the female ones drooping when in flower, erect in fruit. Corolla pointed, entire.

SYN. *Carex acuta*: Gooden. *Tr. of Linn. Soc.* v. 2. 203. *Willd.* 109. *Linn. Sp. Pl.* 1388, α. *Fl. Succ.* 334, β. *Huds.* 413, β.

C. gracilis. *Curt. Lond. fasc.* 4. t. 62. *Relb.* 357. *Sibth.* 32.

Gramen cyperoides majus angustifolium. *Raii Syn.* 417.

EQUALLY common with the last in similar situations, flowering in May, being according to Mr. Curtis's observations a week or two later than that. This is certainly what Linnæus intended for *C. acuta* in both editions of his *Species Plantarum*, whatever he might at different periods erroneously





CAREX paludosa.
Lesser Common Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes cylindrical, bluntish, erect; the female with awn-pointed scales; the male with blunt ones. Fruit elliptical, notched.

SYN. *Carex paludosa.* *Gooden. Tr. of Linn. Sec. v. 2.* 201. *Sm. Fl. Brit.* 1002. *With.* 108. *Hull.* 209. *C. acuta.* *Qert. Lond. fasc. 4. t. 61.* *Huds.* 413, 7. *Gramen cyperoides minus, angustifolium.* *Dill. in Rati Syn.* 418.

WE have already alluded to this *Carex* in describing the *rigens* and the *acuta* in our 9th volume, *t.* 579 and 580. It is found in watery places, like them, and is full as common as the *rigens*; *both* flowering in May. The root is perennial,



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C A R E X riparia.
Great Carex.

MONŒCIA Triandra.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* inflated, permanent. *Seed* triangular, invested with the corolla.

SPEC. CHAR. Spikes oblong, acute; the male with lanceolate scales; the female with awn-pointed ones. Corolla ovato-lanceolate, forked at the tip.

SYN. *Carex riparia*. *Cart. Lond. fasc. 4. 1. 60.*
Gooden. Tr. of Linn. soc. v. 2. 200. Wurb. 108.
Relb. 356. Sibth. 31. Abbot. 206.

C. acuta. x. Huds. 413.

Gramen cyperoides cum paniculis nigris. Rau Syn.
417.

ONE of our most common species of *Carex* at the banks of ditches and rivers, and in most watery places, flowering about April or May, and distinguished from all others by its greater size. There are indeed two more species, which had generally in England been confounded with this, till Mr. Curtis clearly determined their differences in the 4th fasciculus of his *Flora*, the *paludosa* and *acuta* of Dr. Goodenough. Linnæus confounded all three together under his *acuta*.

C. riparia has a strong, widely creeping, perennial root. Stem two or three feet high, leafy, with three sharp rough angles, which, like the edges of the leaves, cut like a fine saw. Leaves broad, sharp, erect, deep-green, a little glaucous beneath; those on the stem having a sheathing reticulated base. Spikes alternate, one of them terminal, about 3 of each sex, but the upper female ones generally terminate in several male flowers. The scales of the males are lanceolate, generally pointed, often blunt; those of the females, especially the lower ones, blunt, tipped with a sharp rough awn, one great mark of the species. The stigmas are three. The permanent corolla cloven at the tip, and ribbed. The male spikes are triangular, generally acute, but sometimes blunt.



[1387]

CAREX lævigata.

*Smooth-stalked Beaked Carex.**MONOECIA Triandra.*

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Spikes cylindrical: the female ones on stalks. Sheaths very long. Glumes pointed. Fruit triangular, with a cloven beak.

SYN. *Carex lævigata*. Sm. *Tr. of Linn. Soc.* v. 5. 272. *Fl. Brit.* 1005.

C. æthyolia Schkuhr. *Caric.* 107. n. 91. t. Z. f. 83.

OUR specimens were gathered July 3d by Mr. E. Forster in a boggy chicket near Waver Common, Essex. The same gentleman has found this species in Cornwall and Sussex. It was first observed in Scotland; see *Fl. Brit.*; but has been overlooked by most botanists. Schkuhr had it from the Isle



Stachys recta L.



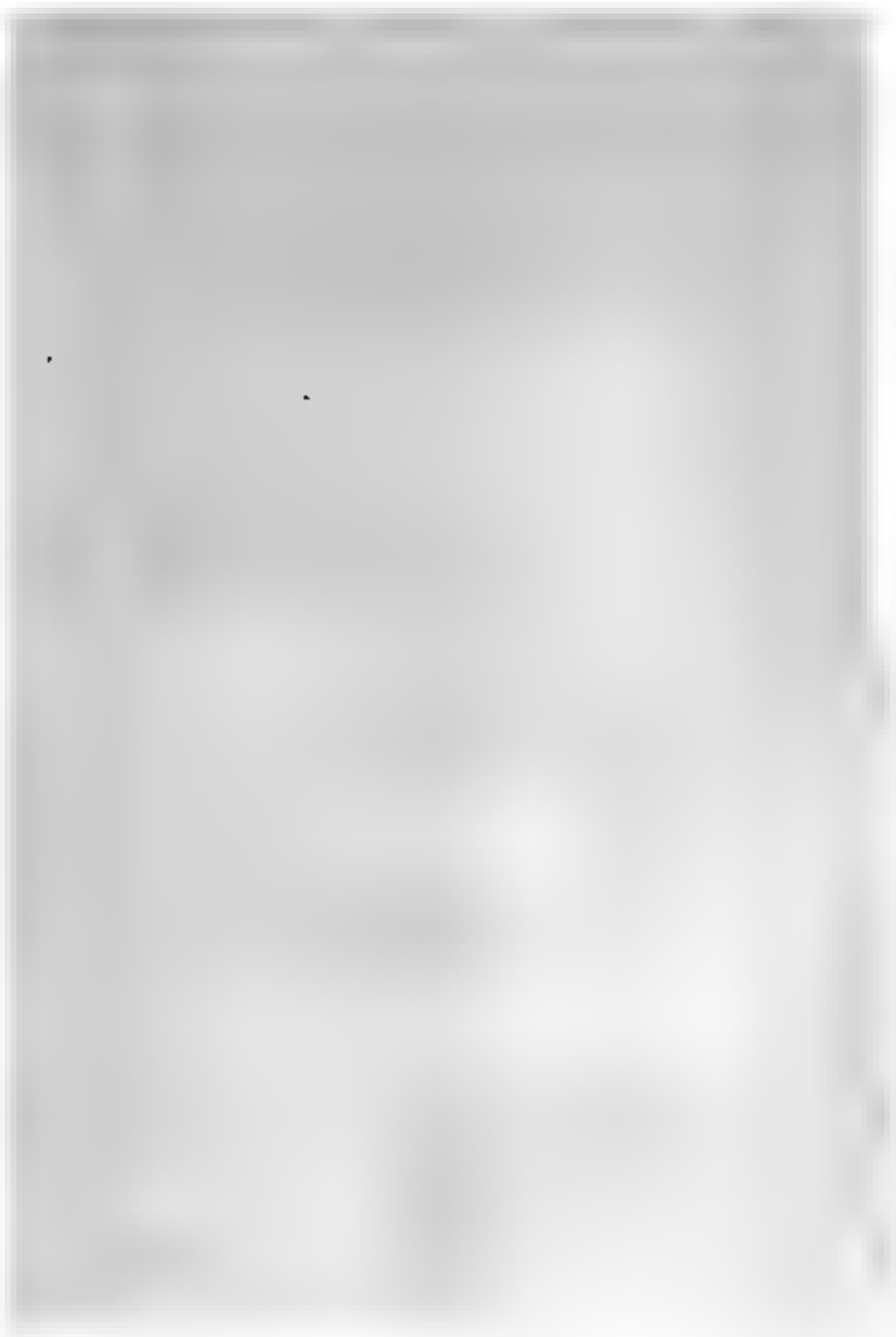
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CAREX ampullacea.

Slender-beaked Bladder Carex.

MONOECIA Triandra.

GEN. CHAR. Male, *Cutkm* imbricated. *Cal.* of 1 scale. *Cor.* none. Female, *Cutkm* imbricated. *Cal.* of 1 scale. *Cor.* none. Stigmas 2 or 3. Seed clothed with a swelling tunic.

SPEC. CHAR. Female spikes cylindrical, elongated, nearly sessile. Sheaths none. Fruit inflated, with a linear forked beak.

SYN. *Carex ampullacea.* *Gooden. Tr. of Linn. Soc.* v. 2. 207. *Sm. Fl. Brit.* 1006. *With.* 110. *Hull.* 209.

C. vesicaria. *Huds.* 413. *Lightf.* 566.

C. rostrata. *Sibth.* 32. *Abbot.* 206.

Grænen cyperoides polystachyon majus, spicis teretibus erectis. *Ray Syn.* 419.

THIS *Carex* is also most common in Scotland and the northern counties; in the south it more rarely occurs. It is plentiful at Seething in Norfolk. We received our specimen by favour of Mr. J. Holme of Peter-house, Cambridge, from a watery gravel-pit near that town, where the plant was first remarked by the Rev. Mr. Newton, F. L. S. It is not a Linnæan species, and has been much mistaken by different botanists. Hudson quotes a synonym of Ray which belongs to our *vesicaria*, subjoining its proper denomination as a variety. Dr. Stokes first well illustrated it by the name of *rostrata*, in Dr. Withering's 2d edition. It flowers in May.

Root creeping, perennial. Stem with 3 blunt angles, which below the lowest bractea are smooth. Leaves narrow, rather glaucous. Male spikes 2 or 3, very slender, with bluntnish leaves; female 2 or 3, with generally sharper ones. These female spikes are longer and more slender than those of *C. vesicaria*, consisting of numerous spreading yellowish inflated roundish fruits, each terminating in a linear beak, nearly of its own length, which is cloven at the point. Seed small, crowned with the long style.



(685)

CAREX hirta.

Hairy Carex.

MONŒCIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* hollow, permanent, investing the seed.

SPEC. CHAR. Hairy. Spikes short, cylindrical, remote. Sheaths nearly equal in length to the flower-stalks. Scales awned. Fruit hairy.

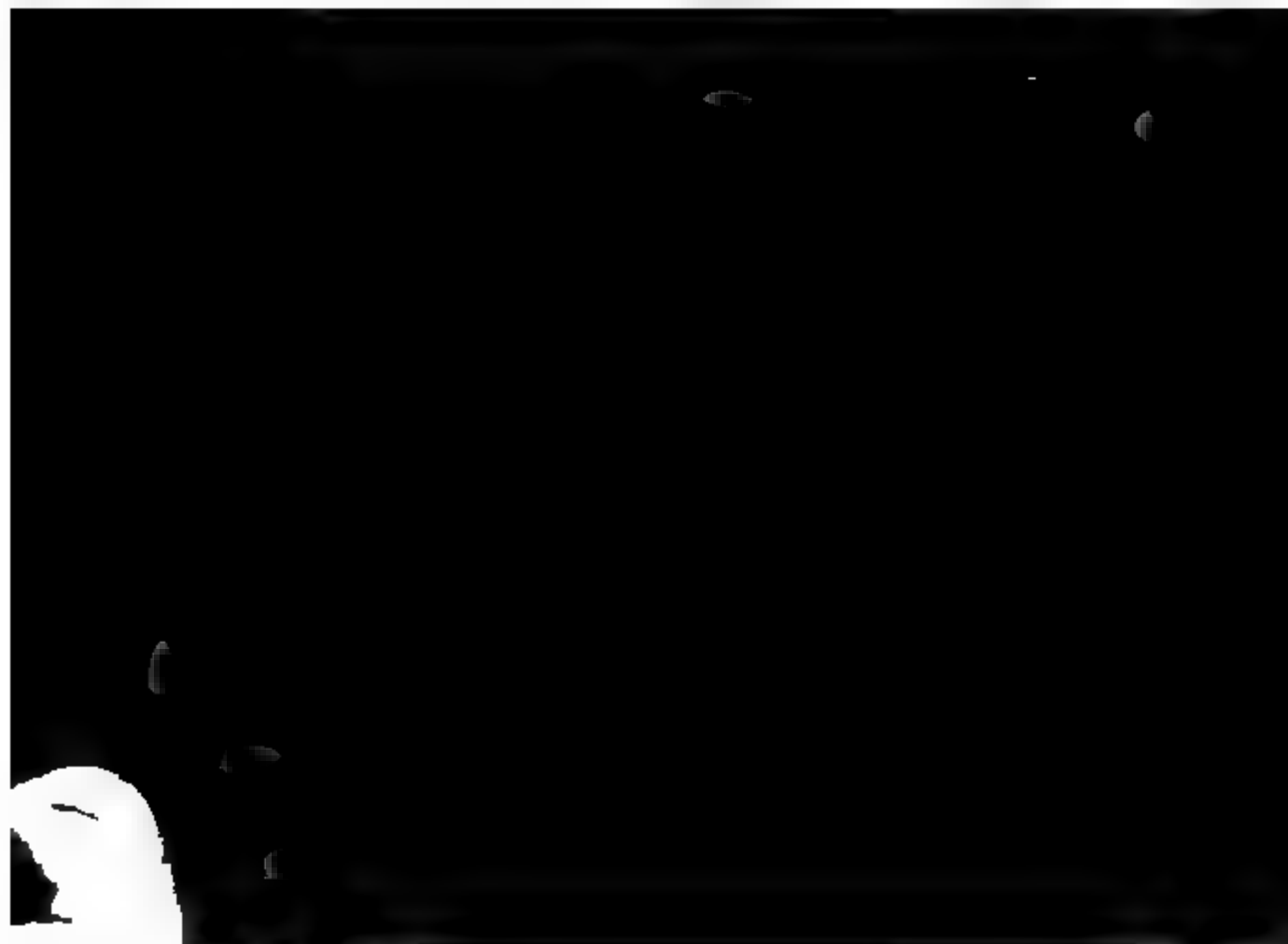
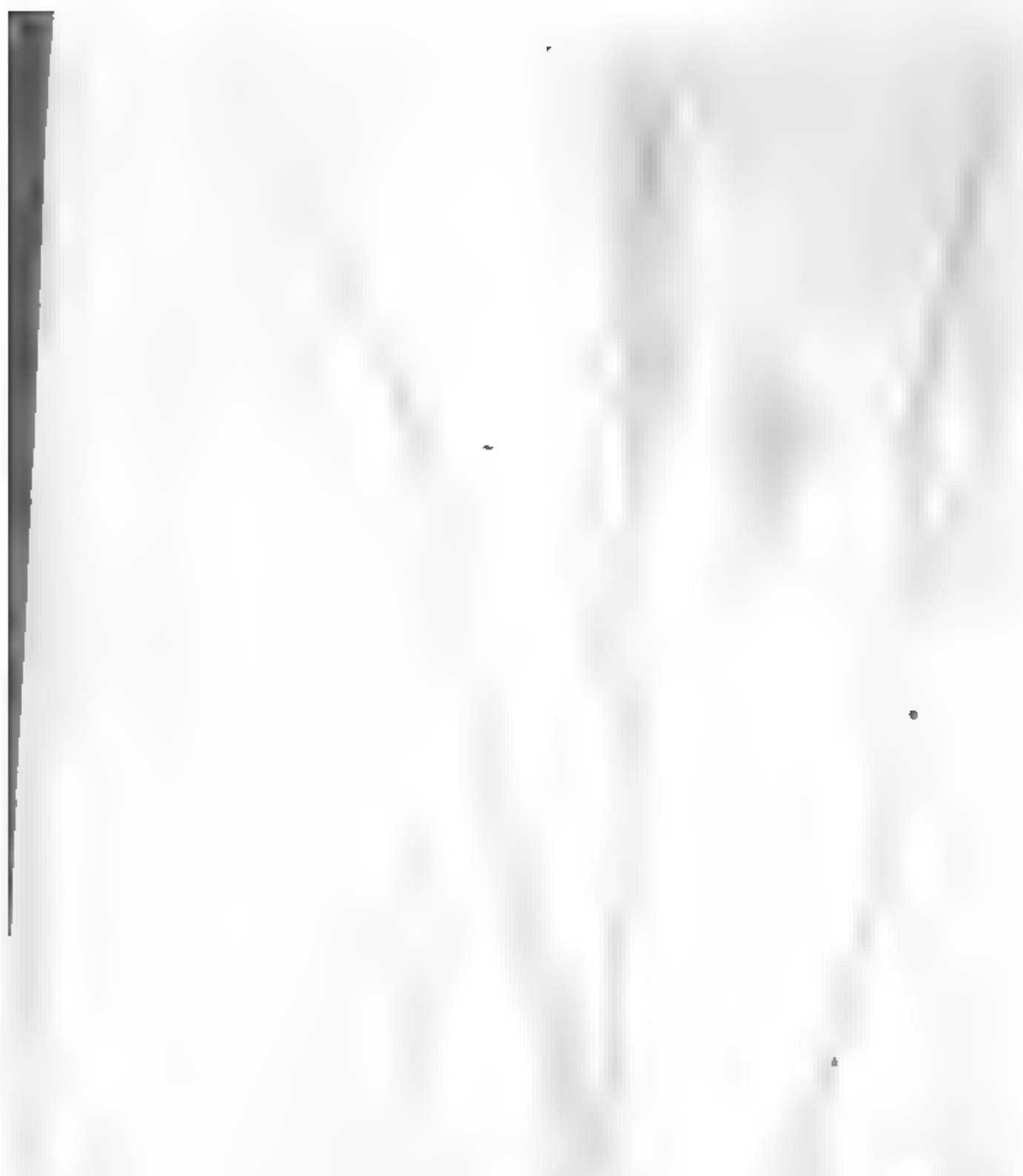
SYN. *Carex hirta*. *Linn. Sp. Pl.* 1389. *Gooden. Tr. of Linn. Soc.* v. 2. 208. *Hudsf.* 414. *Willd.* 111. *Hull.* 209. *Reichb.* 357. *Sibth.* 33. *Abbot.* 207. *Dicks. H. Sicc. fasc.* 11. 16.

Gramen cyperoides polystachyon lanuginosum. *Rain Syn.* 418.

THIS species of *Carex* belongs to that division of the genus in which the male spikes are more than one. It is not uncommon in moist meadows and other watery places. It is

685







C A R E X filiformis.

Slender-leaved Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none.

Female, *Catkin* imbricated. *Cal.* of 1 scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikes ovate; males generally two. Sheaths nearly as long as the flower-stalks. Scales pointed. Fruit downy. Leaves channelled, smooth.

SYN. *Carex filiformis.* *Linn. Sp. Pl.* 1385. *Gooden. Tr. of Linn. Soc.* v. 2. 172. t. 20. f. 5. *Sm. Fl. Brit.* 1008. *With.* 97. *Hull.* 207.

C. tomentosa. *Lightf.* 553. *Huds.* 650.

C. hirta. *Fl. Dan.* t. 379, except the separate spike.

THE late Dr. Hope having received specimens of this *Carex* from some meadows near Ayr, made it known to Mr. Lightfoot, who took it for the *tomentosa* of Linnæus. (See *Tr. of L. Soc.*) It has since been gathered by Mr. Mackay in several other parts of Scotland. The Rev. Mr. Williams has found





ERIOCAULON septangulare.

*Jointed Pipewort.**MONOECIA Triméris.*

GEN. CHAR. ~~Cymes~~ Calyx of many leaves, many-flowered: *partial* of 2 or 3 leaves. Cor. in 2 or 3 segments.

Male fl. in the middle of the disk. Female in the border. *Sigmas* 2 or 3. *Caps.* 2- or 3-lobed. *Seeds* solitary.

SPEC. CHAR. Stem with 7 angles. Leaves pointed, formed of a network of cells. Male florets of 1 petal with 4 stamina.

SYN. *Eriocaulon septangulare.* *Sm. Fl. Brit.* 1010. *Wilh.* 184. *Syn. Syn* 41.

E. decangulare. *Hall.* 29. *Lightf.* 569.

Nasmythia articulata. *Huds.* 415.

A LESS general inhabitant of alpine lakes than even the *Sabularia*, t. 732; for we know not that it has been found in any other part of the world than the isle of Skye, from whence



79.

LITTORIELLA lucida.

Flourish Yarrow-wood

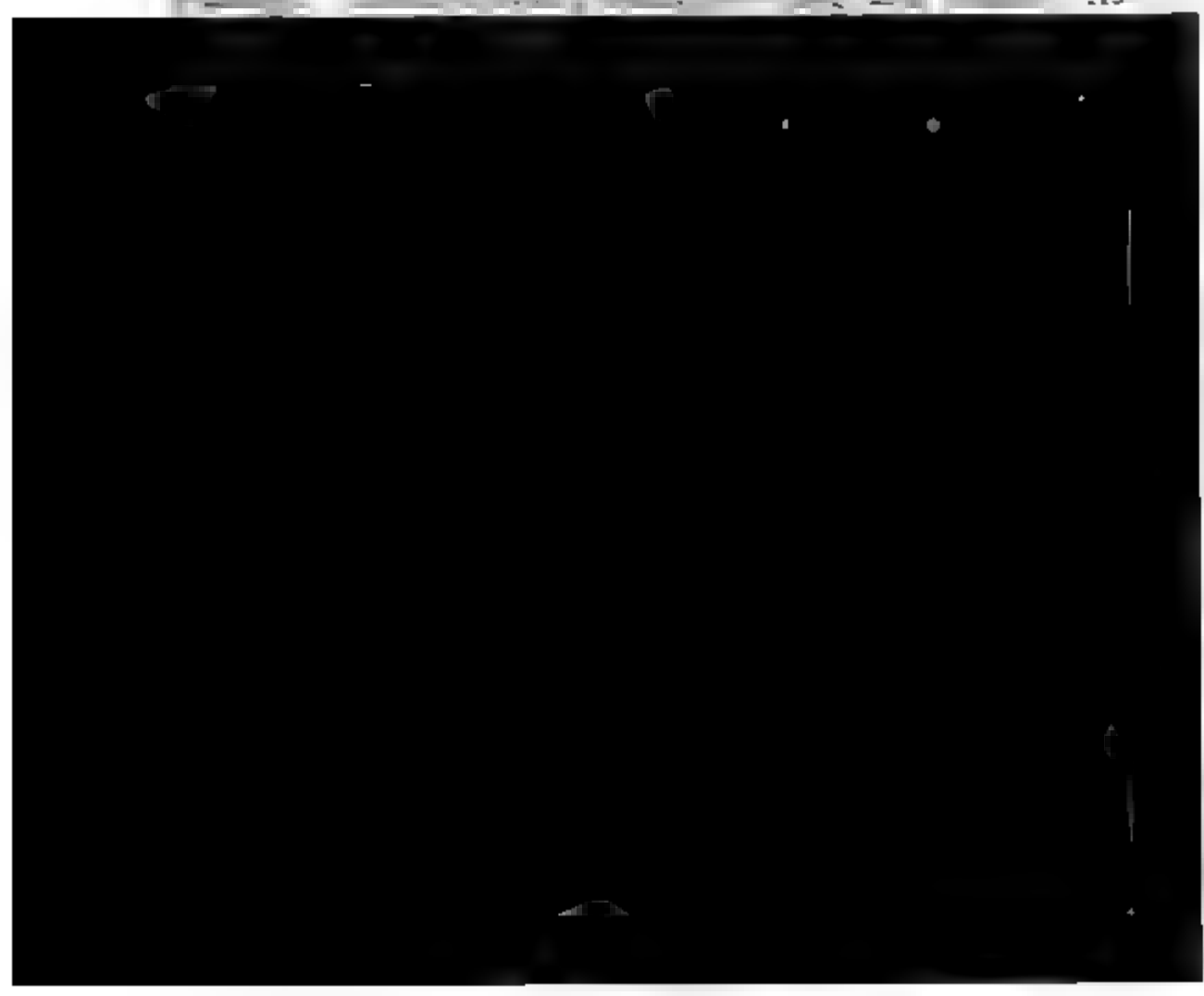
MYRTILLA Terminalia

Gen. Char. Wood. Lvs. alternate. Cor. of one petal, 5-lobed. Stamens very long.
 Petiole. Lvs. round. Cor. of one petal, unequally 5-lobed. Lvs. linear-lance very long. Nuts of one seed.

SPEC. CHAR.
 Syn. Littorilla lucida. Lam. Mart. 233. Hbif. 415.
 Terminalia lucida.
 P. Martiana. Lam. Sp. Pl. 164.
 P. lucida. Lam. Sp. Pl. 164.
 P. lucida. Lam. Sp. Pl. 164.

A MYRTILLA is mostly found in various parts of Great Britain, though not common. Sir T. G. Culum, Bart. discovered it in the vicinity of Carlisle, Scotland, flowering in June 1811.

The wood is that of a terminalia. Root perennial, long, thick, branching, showing the numerous ligneous fibres. Stem erect. Leaves linear-lance, alternate: convex beneath, flat, or a little concave above: situated at the base; very much resembling those of P. Martiana. Male flowers several, solitary, on long linear stalks scarcely as high as the leaves, with 5-lobed corolla. Corolla with an inflated tube: the lobes of a small convex division, exactly as in P. Martiana.





LITTORELLA lacustris.

*Plantain Shore-weed.**MONOECIA Tetrandria.*

GEX. CHAR. Male, *Cal.* 4-leaved. *Cor.* of one petal, 4-cleft. *Stamina* very long.

Female, *Cal.* none. *Cor.* of one petal, unequally 3-cleft. *Style* thread-like, very long. *Nut* of one cell.

SPEC. CHAR. ----

SYN. *Littorella lacustris.* *Linn. Mant.* 295. *Huds.* 415. *With.* 194. *Relb.* 358.

Plantago uniflora. *Linn. Sp. Pl.* 167.

P. palustris gramineo folio monanthos, *Parisienfis.* *Raii Syn.* 316.

A NATIVE of marshy sandy spots in various parts of Great Britain, though not very common. Sir T. G. Cullum, Bart. shewed it to Mr. Sowerby at Cavenham, Suffolk, flowering in June last.

The whole habit is that of a plantain. Root perennial, long, spindle-shaped, throwing out numerous simple fibres. Stem none. Leaves linear, entire, smooth; convex beneath, flat, or a little channelled above; dilated at the base; very much resembling those of *Plantago maritima*. Male flowers several, solitary, on long simple naked stalks scarcely so high as the leaves, erect. Calyx of 4 equal leaves. Corolla with an inflated tube; the limb in 4 equal concave divisions, exactly as in *Plantago*. Stamina equal, erect, very long and slender. An-





Urtica dioica



[2526]

BETULA nana.

Dwarf Birch.

MONOECIA Tremula

GEN. CHAR. Male. Cal. scale of a catkin, of 1 leaf, 3-flowered. Cor. none. Stam. 12—13. Female, Cal. scale obscurely 2-lobed, 3-flowered. Cor. none. Styles 2. Seeds compressed winged.

SPER. CHAR. Leaves orbicular, crenate.

Syn. *Betula nana*. *Less. Sp. Pl.* 1334. *Fl. Lapp.* ed. 2. 274. t. 5. f. 4. *Su. Fl. Bru.* 1013. *Huds.* 416. *Wied.* 297. *Hult.* ed. 2. 281. *Lag. f.* 375. t. 23. *Falck. Ross.* t. 1. p. 1. 63. t. 40. f. D—G. *Dicks. H. Sax. f.* 15. 16.

A CONSIDERABLE degree of celebrity is attached to this shrub, from its frequent mention in the *Flore Lapéonée*, and Tour to Lapland recently published, of LINNÆUS, as well as from its being the subject of his first dissertation in the *Amoenitas Academice*. It is by no means rare in Scotland, from whence our wild specimens came, yet it was not known to British botanists till Sir James Nisblyth made the discovery about 40 years ago.

The shrubby, rigid, much branched stem is about a yard high, with a blackish bark, slightly downy on the young twigs. Leaves alternate, on short stalks, of a circular form, sometimes abrupt and kidney-shaped, strongly and unequally crenate, rigid, smooth, furnished with veins, deciduous. Buds with convex fringed scales. The male catkins grow from lateral axillary buds, and are sessile, cylindrical, dark brown, sometimes of an inch in length, appearing in May when the young leaves are beginning to expand. The female catkins are short, with two leaves at the base, and are sessile, downy, and green, with red styles. However valuable in the domestic economy of the poor Laplanders, this shrub is scarcely known east of the most western parts of Europe.



20.



[2326]

BETULA nana.

Dwarf Birch.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* scale of a catkin, of 1 leaf, 3-flowered. *Cor.* none. *Stam.* 10—12. Female, *Cal.* scale obscurely 3-cleft, 3-flowered. *Cor.* none. *Styles* 2. *Seeds* compressed, winged.

SPEC. CHAR. Leaves orbicular, crenate.

SYN. *Betula nana.* Linn. *Sp. Pl.* 1394. *Fl. Lapp.* ed. 2. 274. t. 6. f. 4. *Sm. Fl. Brit.* 1012. *Huds.* 416. *With.* 207. *Hull. ed.* 2. 281. *Lightf.* 575. t. 25. *Pallas. Ross.* v. 1. p. 1. 63. t. 40. f. D—G. *Dicks. H. Sicc. fasc.* 18. 16.

A CONSIDERABLE degree of celebrity is attached to this shrub, from its frequent mention in the *Flora Lapponica*, and Tour to Lapland recently published, of Linnæus, as well as from its being the subject of his first dissertation in the *Amœnitates Academicæ*. It is by no means rare in Scotland, from whence our wild specimen came, yet it was not known to British botanists till Sir James Nasmyth made the discovery about 40 years ago.

The shrubby, rigid, much branched stem is about a yard high, with a blackish bark, slightly downy on the young twigs. Leaves alternate, on short stalks, of a circular form, sometimes abrupt and kidney-shaped, strongly and unequally crenate, rigid, smooth, reticulated with veins, deciduous. Buds with concave fringed scales. The male catkins grow from lateral leafless buds, and are sessile, cylindrical, dark brown, one third of an inch in length, appearing in May when the young leaves are beginning to expand. The female ones terminate little short shoots, with two leaves at the base, and are ovate, shorter, and green, with red styles. However valuable in the domestic œconomy of the poor Laplander, this shrub is scarcely known out of the most northern parts of Europe.

2320



Leucophaea

[1508]

BETULA Alnus.
Common Alder.

MONOECLA Tetrandria.

GEN. CHAR. *Male.* Cal. scale of a *catkin*, of 1 leaf. *Stam.* 3-flowered. *Cor.* 4-cleft.

Female. Cal. scale obscurely 3-cleft, 2-flowered. *Styl.* 2. *Seeds* compressed.

SPEC. CHAR. Flower-stalks branched. Leaves roundish, somewhat wedge-shaped, waved, serrated, glutinous; downy at the branching of the veins beneath.

SYN. *Betula Alnus.* *Lin.* *Sp. Pl.* 1394, *α.* *Sm. Fl. Brit.* 1013. *Huds.* 416. *With.* 206. *Hull.* 210. *Reh.* 374. *Sith.* 64. *Attol.* 207.

Alnus. *Rail Syn.* 442. *Ger. em.* 1477.

A VERY general tree in boggy grounds about lakes or rivulets, throwing its broad arms and umbrageous foliage with much picturesque effect over the still reedy pool, and supplying the want of the oak in such parts of a landscape. It blossoms in March, or early in April, but the leaves are not





[1341]

BUXUS sempervirens.*Box-tree.***MONOECLA Tetrandria.**

GEN. CHAR. Male, *Cal.* of 3 leaves. *Petals* 2. Rudiment of a *germen*. Female, *Cal.* of 4 leaves. *Petals* 3. *Caps.* with 3 beaks, 3 cells, and 2 seeds in each cell.

SPEC. CHAR.

SYN. *Buxus sempervirens.* *Lin.* *Sp. Pl.* 1394. *Sm.*

Fl. Brit. 1013. *Ends.* 417. *With.* 210. *Hull.* 210.

Buxus. *Raii Syn.* 445.

S. B. angustifolia. *Dill. in Raii Syn.* 445.

THE Box grows on dry chalky hills, but not universally. Ray mentions Box hill in Surrey; Boxwell, Gloucestershire; and Boxley, Kent; three places evidently named from their producing this plant, of which the first-mentioned is the most famous. It is a conical hill, naturally clothed with these



1341



— 1341 —

U R T I C A pilulifera.
Roman Nettle.

MONŒCIA Tetrandria.

GEN. CHAR. Male. *Cal.* 4-leaved. *Cor.* none. *Nectary* in the centre, cup-shaped. Female. *Cal.* 2-leaved. *Cor.* none. *Seed* one, polished.

SPEC. CHAR. Leaves opposite, ovate, serrated. Catkins of fruit globose.

SYN. *Urtica pilulifera.* *Linn. Sp. Pl.* 1395. *Huds. Fl. An.* 417. *With. Bot. Arr.* 1070.

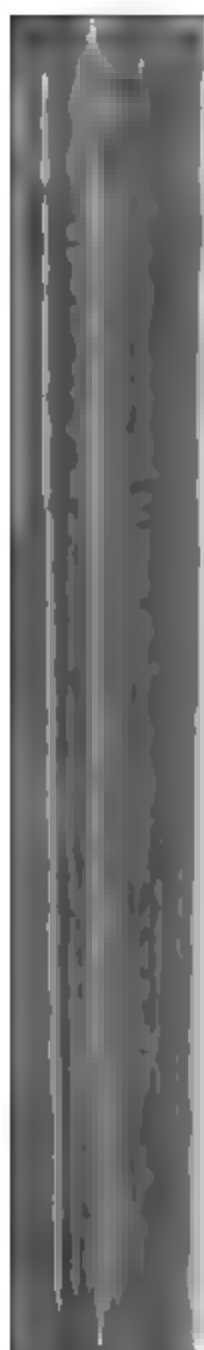
U. pilulifera, folio profundius *Urticæ majoris* in modum serrato, semine magno lini. *Raii Syn.* 140.

SENT by Dawson Turner Esq. in July last from Yarmouth, where, as in various parts of the Norfolk and Suffolk coast, this kind of nettle is found growing abundantly among rubbish and stones. Its sting is more painful than either of our common species whose structure is so well illustrated by Mr. Curtis in his *Flora Londinensis*.

This is an annual of very luxuriant growth, about 2 feet high, stem obtusely angular, often purple. Leaves on length







[1236]

URTICA urens.
Small Nettle.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* 4-leaved. *Cor.* none. Rudiment of a germen cup-shaped. Female, *Cal.* 2-leaved. *Cor.* none. Seed 1, superior, polished.

SPEC. CHAR. Leaves opposite, elliptical, about five-ribbed. Clusters nearly simple.

SYN. *Urtica urens.* *Lin.* *Sp. Pl.* 1396. *Sm. Fl.* *R.* 1015. *Huds.* 417. *With.* 202. *Hall.* 210. *R.* 574. *Sith.* 62. *Attol.* 208. *Curt. Lond.* *fl.* 2. 70.

U. minor. *Rail Syn.* 140.

THIS archaic and prolific weed is sufficiently well known to cultivators of every description. It is an annual of quick growth, thriving most on a light soil, and often forming two crops in the course of the year.

U. dioica is a perennial, grows most, brighter green colour,





[1750]

URTICA dioica.

Great Nettle.

MONOECIA Tetrandria.

GEN. CHAR. Male, *Cal.* 4-leaved. *Cor.* none. Rudiment of a *germen* cup-shaped. Female, *Cal.* 2-leaved. *Cor.* none. Seed 1, superior, polished.

SPEC. CHAR. Leaves opposite, heart-shaped. Clusters much branched, in pairs, mostly dioecious.

SYN. *Urtica dioica.* *Linn. Sp. Pl.* 1396. *Sm. Fl. Brit.* 1016. *Huds.* 417. *With.* 201. *Hull* 210. *Relh.* 375. *Sibth.* 62. *Abbot.* 208. *Curt. Lond. fasc.* 6. t. 69.

U. racemifera major perennis. *Raii Syn.* 139.

EVERY body is acquainted with the common perennial Nettle, so abundant in waste places, whether open or shady, blossoming throughout the latter part of summer; but few have perhaps had courage or curiosity enough to investigate parts so strictly guarded, and to perceive that the barren flowers are commonly all from one root, the fertile from another, or,



2750



Urtica dioica L. var. *diandra* (L.) Kuntz.



XANTHIUM strumarium.

Burweed, or Small Burdock.

MONOECIA Pentandria.

Gen. Char. Male. Common Calyx imbricated. Flowers of one petal, funnel-shaped, five-cleft. Receptacle chaffy.

Female. Calyx two-leaved, two-flowered. Corolla. Drupe dry, mucated, cloven. Nut of 2 cells.

Spec. Char. Stem without thorns. Leaves heart-shaped, three-ribbed at the base.

Syn. *Xanthium strumarium*. Linn. Sp. Pl. 1400.
Sis. Fl. Sm. 1817. *Huds.* 418. *Willd.* 283.
Fl. Fr. 2 278. *F. Dec.* 1. 970.

V. en Lapp. Sm. *Enc. Syn.* 140.

Barbarea minor. Ger. em. 809.

This plant, though it has been found in several places to the south of London, is so rare that we have been forced to content ourselves with printed specimens. It requires a rich, moist, or dunged soil, where it produces its elegant blossoms in August and September, and is chiefly remarkable for the seed-vessels, which appear afterwards in numerous solitary tufts, covered with hooked stipes. These stipes adheres to the coats of animals, like the seeds of the true Burdock. *Barb.* see t. 1228, 2478; which notwithstanding agrees in the most essential leaves, three-ribbed at their base, and causes the application of the name *Xanthium* being in two places so different an important character. Yet the *Xanthium* is one of those ambiguous genera, whose male flowers are sometimes single and staminate, and whose female ones are of a different structure, as abundantly in *Scilla*, and more so in *Scilla* *maritima*, the preservation of the Linnæan class *Monœcia* and *Dioecia*.

2544



Rhus glabra L.

[2212]

AMARANTHUS Blitum.

*Wild Amaranth.**MONOECIA Pentandria.*

GEN. CHAR. Male, *Cal.* of 3 or 5 leaves. *Cor.* none. *Stam.* 3 or 5. Female, *Cal.* of 3 or 5 leaves. *Cor.* none. *Styles* 3. *Capsule* of 1 cell, splitting all round. *Seed* 1.

SPEC. CHAR. Flowers three-cleft and triandrous, in small lateral tufts. Leaves ovate. Stem diffuse.

SYN. *Amaranthus Blitum.* *Linn. Sp. Pl.* 1405. *Sm. Fl. Brit.* 1018. *Huds.* 418. *With.* 174. *Hull. ed.* 2. 279. *Relh.* 375.

Blitum rubrum minus. *Dill. in Raii Syn.* 157.

THIS dunghill plant is more frequent about London than elsewhere. Mr. Dickson, to whom we are obliged for our specimen, gathered it in the rich soil of Battersea fields. It is annual, bearing its little inconspicuous blossoms in August, and seeding plentifully in that month and the following.

The habit is rather that of an *Atriplex* than of such of its more specious congeners as decorate our gardens. The stems





... ..

BRYONIA dioica.

Red-berried Bryony.

MONŒCIA *Synœcia*

GEN. CHAR. Male, Cal. 5-toothed. Cor. 5-cleft. Filaments 3. Antheræ 5.
Female, Cal. 5-toothed. Cor. 5-cleft. Style 3-cleft.
Berry inferior, roundish, with many seeds.

SPEC. CHAR. Leaves palmate: rough on both sides with callous points. Male and female flowers on separate plants.

SYN. Bryonia dioica. *Willd.* 67. *Sibth.* 81. *Jacq. Austr.* v. 2. 1. 199.
B. alba. *Huds.* 437. *Relb.* 375. *Rau Syn.* 261.
B. ruderalis. *Salisb. Prodr.* 158.

COMMON every where in hedges and thickets, flowering from May to September.

Root perennial, growing to a very large size, white, and and purgative (see Withering). Stems annual, climbing by means of simple tendrils, angular, rough, not much branched, very long. Leaves alternate, on rough foot-stalks, palmate, with five angular lobes, veiny, rough on both sides with small callous points. Stipulæ none. Flowers in axillary bunches, the males larger, on longer stalks, and on a separate root from the female, contrary to the other species of this genus, which therefore stands in the class *Monœcia* of the Linnæan system. Calyx bell-shaped, with five sharp teeth. Corolla longer, in five elliptical obtuse segments, whitish, veined with green. Stamina consisting of three short filaments hairy in their lower part, two of which bear each of them two antheræ, and the third a solitary one, though Mr. Sowerby has observed all of them to bear double antheræ occasionally. The antheræ are all more or less firmly connected at their base, and bear the pollen on their outer edge. The female flowers are a little elevated on a short stalk above the smooth globular germen, and have no rudiments of stamina. The style is divided into three branches, with cloven downy stigmas. Berry red, of one cell, full of foetid juice, enveloping six elliptical spotted seeds.

Most writers have confounded this with the *Bryonia alba* of Linnæus, called *alba* from the white root, though the berries of that are black. Dillenius, on the authority of Puccinot mentions it as not rare about Cambridge. But Professor Murray assures us no one else has found it. It is the Swedish plant, see *Flora Suecica*.



1899. 1899. 1899. 1899. 1899. 1899. 1899. 1899. 1899. 1899.

CERATOPHYLLUM demersum.

Common Hornwort.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* in many divisions. *Cor.* none.
Stam. 16 to 20.

Female. *Cal.* in many divisions. *Cor.* none. *Stigma*
nearly sessile. *Seed* solitary, coated.

SPEC. CHAR. Fruit armed with three spines.

SYN. *Ceratophyllum demersum.* *Linn. Sp. Pl.* 1409.
Huds. 419, α. *Witb.* 440. *Hull.* 211. *Retz.* 361.
Sibth. 168.

Hydroceratophyllum folio aspero, quatuor cornibus
armato. *Vuill. Mem. de l'Acad. des Sciences (Ger-*
man edition) 299. t. 15. f. 1. *Raii Syn.* 135.

THE diligence of our obliging correspondents the Rev. Mr. Holme and Mr. Pitchford, has this season supplied us with the fructification of *Ceratophyllum demersum*, which enables us now to complete the history of that genus: see v. 10. t. 679.

This species is very common in stagnant waters, ditches and fish-ponds, flowering in September. The root is perennial, Herb floating under water, and agreeing in habit with *C. jub-*
mersum, except that the leaves appear to be more distantly

44.



CERATOPHYLLUM submersum.

Unarmed Hornwort.

MONOECIA *Polyandria.*

GEN. CHAR. Male. *Cal.* in many divisions. *Cor.* none. *Stam.* 16 to 20.

Female. *Cal.* in many divisions. *Cor.* none. *Sigma* nearly sessile. *Seed* solitary, coated.

SPEC. CHAR. Fruit destitute of spines.

SYN. *Ceratophyllum submersum.* *Linn. Sp. Pl.* 1409. *Wick.* 441. *Hull.* 211. *Fl. Dan.* t. 510.

C. demersum L. *Huds.* 419.

Hydroceratophyllum folio lævi, octo cornibus armato.
Faill. Mem. de l'Acad. des Sciences (German edition) 299. t. 15. f. 2. *Dill. in Raii Syn.* 135.

DILLENIIUS mentions his finding this plant, with Mr. Manningham, in ditches by the road from Chichester to Selfey island. Our specimen was gathered near Yarmouth by Mr. D. Turner, flowering in September.

Root perennial. Whole plant floating under water, much branched. Leaves about 8 in a whorl. Flowered more





CERATOPHYLLUM submersum.

Unarmed Hornwort.

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* in many divisions. *Cor.* none. *Stam.* 16 to 20.

Female. *Cal.* in many divisions. *Cor.* none. *Stigma* nearly sessile. *Seed* solitary, coated.

SPEC. CHAR. Fruit destitute of spines.

SYN. *Ceratophyllum submersum.* *Linn. Sp. Pl.* 1409. *Witb.* 441. *Hull.* 211. *Fl. Dan. t.* 510.

C. demersum β . *Huds.* 419.

Hydroceratophyllum folio lævi, octo cornibus armato.
Vaill. Mem. de l'Acad. des Sciences (German edition) 299. t. 15. f. 2. *Dill. in Raii Syn.* 135.

DILLENIIUS mentions his finding this plant, with Mr. Manningham, in ditches by the road from Chichester to Selsey island. Our specimen was gathered near Yarmouth by Mr. D. Turner, flowering in September.

Root perennial. Whole plant floating under water, much branched, slender. Leaves about 8 in a whorl, forked near





HELIOPHYLLUM spicatum.*Spiz. War-Mel.***HELIOPHYLLUM spicatum.**

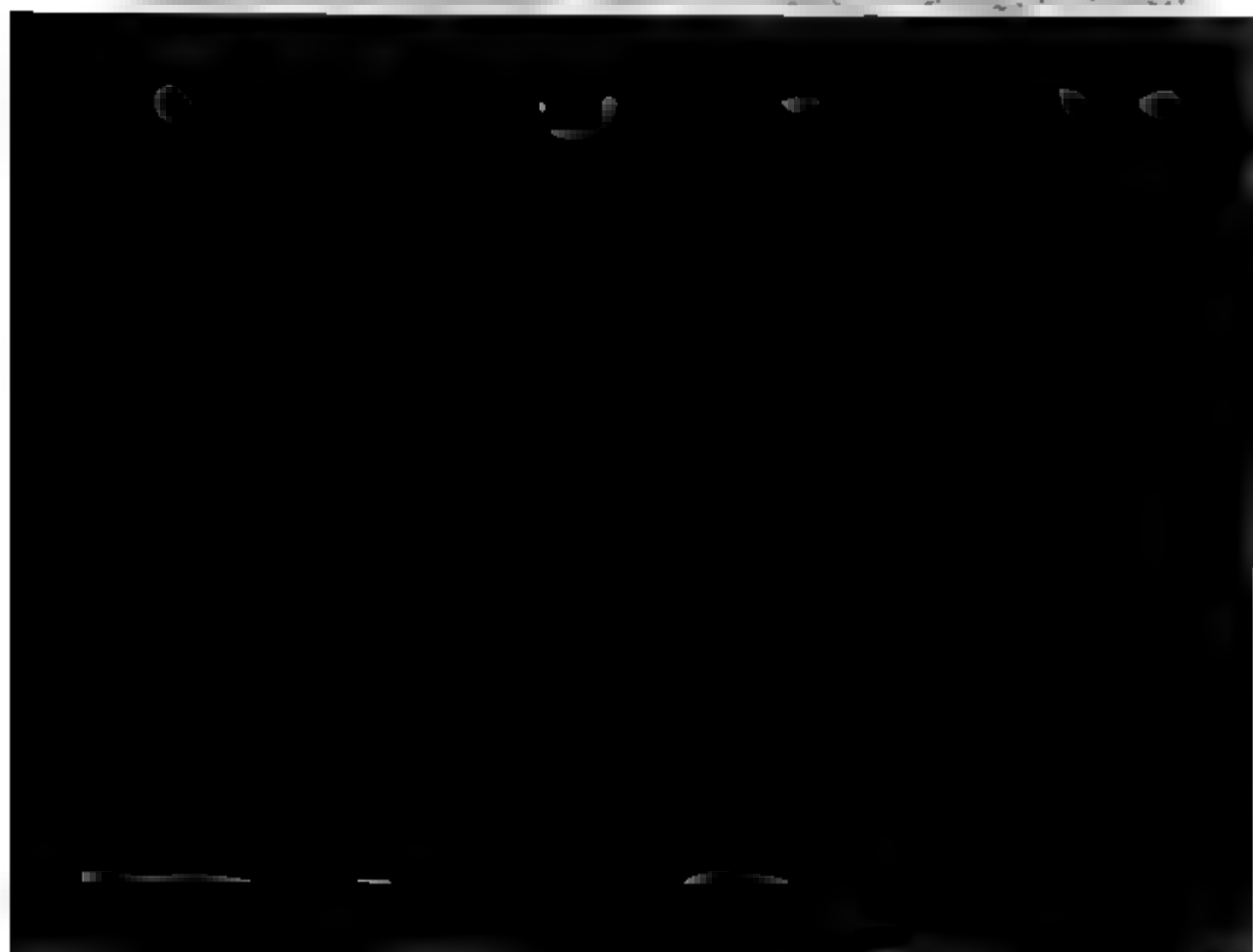
Stems erect, simple, four-leaved. Petals four.
 Leaves simple, four-leaved. Petals
 four, four-lobed. Style four, naked.
 Stems erect, simple flowers in interrupted naked
 spikes.

Stems erect, simple flowers. *Law. Sp. Pl.* 1409.
Flor. Ind. Ind. Fl. Ind. Ind. 1077. Relb.
Ind. Ind.

Spiz. War-Mel. Ind. Ind. 150.

The flowers are small and fragrant, growing
 in the axils of the leaves, which are numerous and spikes, standing
 out above the leaves, which are very conspicuous. This spe-
 cies is called the *War-Mel*, and the *Ind. Ind.* called the *Ind. Ind.*, facing
 the *Ind. Ind.*

The leaves are long and slender, they are long and slender.
 The flowers are small and fragrant, growing in the axils of the leaves, which are
 numerous and spikes, standing out above the leaves, which are very conspicuous.





MYRIOPHYLLUM verticillatum,
Verticillate Water-Milfoil,

MONOECIA Polyandria.

GEN. CHAR. Male. *Cal.* 4-leaved. *Pet.* 4. *Stam.* 8.
 Female. *Cal.* 4-leaved. *Pet.* 4. *Pist.* 4. *Style* none.
Seeds 4, naked.

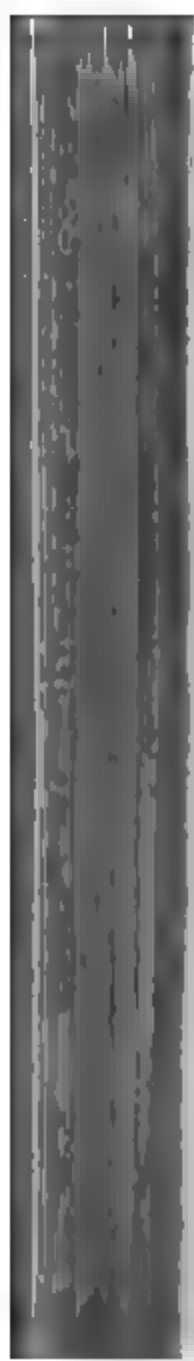
SPEC. CHAR. All the flowers in axillary whorls.

SYN. *Myriophyllum verticillatum.* *Linn. Sp. Pl.*
 1410. *Huds. Fl. An.* 420. *Witb. Bot. Arr.* 1078.
Relb. Cant. 361. *Sibth. Oxon.* 132.

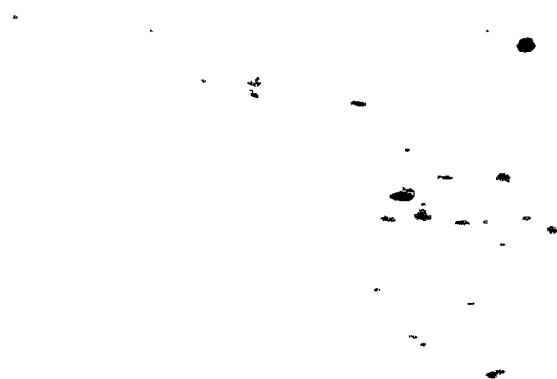
Pentapterophyllum aquaticum flosculis ad foliorum
 nodos. *Raii Syn.* 316.

WE have given the most common Water Milfoil in *tab.* 83
 of this work. That now before us is much more rare. It has
 been sent from several of the eastern parts of the kingdom.
 Mr. Cress discovered it in his ponds at Lakeham.











ARUM maculatum.

Christus-past. or Wake Robin.

EPHEDRA Polypodiæ.

GEN. CHAR. Spikes of one leaf, rolled together at the
STEM. Spikes cylindrical, naked above, bearing
 a crown below the middle, and gemmæ at the base.
SEEDS of 2. rad.

SPEC. CHAR. Same name. Leaves halberd-shaped, en-
 tire. Spikes club-shaped obtuse.

SYN. ARUM maculatum. *Less. Sp. Pl.* 1570. *Sw. Fl.*
Brit. 1754. Flus. 395. *Walt.* 497. *Hall.* 198.
Less. 575. Sp. Pl. 177. *Ævæ.* 197. *Curt. Lond.*
Fl. 1755. 58. Winc. Med. Bot. 2. 25.
ARUM. *Less. Sp. Pl.* 575.

AT THE first approach of spring the verdant shining leaves of
 the ARUM are soon shooting up abundantly wherever any brush-
 wood remains there from the tread of men or of cattle. In
 May the first extraordinary flowers appear. In autumn, after
 these flowers and leaves have withered, a spike of scarlet berries,





Sparganium angustifolium Michx.

[illegible]

POTERIUM Sanguisorba.*Common Burnet.***MONOECIA Polyandria.**

GEN. CHAR. Male, *Cal.* 3-leaved. *Cor.* 4-cleft. *Stam.* 30 to 40.

Female, *Cal.* 3-leaved. *Cor.* 4-cleft. *Pist.* 1 or 2.

Nut of 2 cells, clothed with the hardened tube of the corolla.

SPEC. CHAR. Thorns none. Stem somewhat angular.

SYN. *Poterium Sanguisorba.* *Linn. Sp. Pl.* 1411.

Huds. 421. *Witb.* 493. *Hull.* 212. *Relb.* 362.

Sibth. 168. *Abbot.* 209. *Curt. Lond. fasc.* 2. 1. 64.

Mart. Fl. Rust. 1. 69.

Sanguisorba minor. *Raii Syn.* 203.

A NATIVE of dry chalk or limestone hills, where it generally grows in great plenty, and flowers in July.

The root is strong, woody and perennial. Stems upright, branched, various in height, more or less angular, leafy, smooth. Leaves pinnated, with round neatly-ferrated leaflets, veiny, smooth but not shining, having a glaucous hue



Thalictrum flavum L. f. *Thalictrum* L. f.

[1342]

Q U E R C U S Robur.*Common British Oak.*

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, lobed. *Cor.* none.
Stam. 5—10. Female, *Cal.* bell-shaped, entire,
 rough. *Cor.* none. *Style* 1. *Stigmas* 3. *Nut*
 superior, leathery, with 1 seed.

SPEC. CHAR. Leaves deciduous, oblong, wider towards
 the extremity: their sinuses rather acute: their
 angles obtuse. Fruit-stalks elongated.

SYN. *Quercus Robur.* *Linn. Sp. Pl.* 1414. *Sm. Fl.*
Brit. 1026. *Huds.* 421, α. *Relh.* 378. *Sibth.* 133.
Woodv. Med. Bot. t. 126. *Mart. Rust.* t. 10.

Q. femina. *With.* 387.

Q. pedunculata. *Hull.* 212. *Abbot.* 210.

Q. latifolia. *Raii Syn.* 440.

IF in the foregoing page we have exhibited the most valuable
 British wood, with respect to the refinements of art, we here



Quercus, 1844. Pichardus to 1st January 1844

[1843]

QUERCUS sessiliflora.
Sessile-fruited Oak.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, lobed. *Cor.* none. *Stam.* 5—10. Female, *Cal.* bell-shaped, entire, rough. *Cor.* none. *Style* 1. *Stigmas* 3. *Nut* superior, leathery, with 1 seed.

SPEC. CHAR. Leaves on footstalks, deciduous, oblong: their sinuses opposite and rather acute. Fruit sessile.

SYN. *Quercus sessiliflora*. *Salist. Prod.* 392. *Sm. Fl. Brit.* 1026. *Galp.* 80.

Q. Robur. *With.* 387. *Hull.* 212. *Abbot.* 210. *Huds.* 421, β . *Mart. Rust. t.* 11, 12.

Q. latifolia mas, quæ brevi pediculo est. *Rain Syn.* 440.

THE Sessile-fruited Oak, fortunately much less common than the true British Oak, *t.* 1342, as its timber is far less strong and durable, is however found in most parts of England. It is known by its leaves being more regularly and oppositely sinuated, which gives the tree a neater and more chesnut-like aspect, with generally longer footstalks; but especially by the female flowers, and consequently the acorns, being sessile. It is said to be somewhat later in flowering, and the leaves are commonly more permanent. Sometimes they are downy beneath, as in our specimens sent by Mr. W. Borrer and Mr. Lyell from Sussex, which variety is called the Durmast Oak. This abounds in the New Forest, and about Goodwood near Chichester; but however desirable as a variety in some plantations, it is to be rejected from all plantations for valuable purposes, and the true *Q. Robur* should be carefully preferred. Professor Martyn, whose *Flora Rustica* contains a full account of these trees, has only erred in considering the common smooth-leaved state of *Q. sessiliflora* as belonging to the *Robur*, misled, as it seems, by the occasional footstalks of the leaves.





FAGUS Castanea.

Chestnut-tree.

MONOECIA *Prijandria.*

GR. C. CR. Male. Cal. bell-shaped, 5-cleft. Cor.
none. Style 3 to 12.

Female. Cal. 4-cleft. Cor. none. Styles 2 or 3,
three-cleft. Seed 1 or 3, inv. with the leathery
protection.

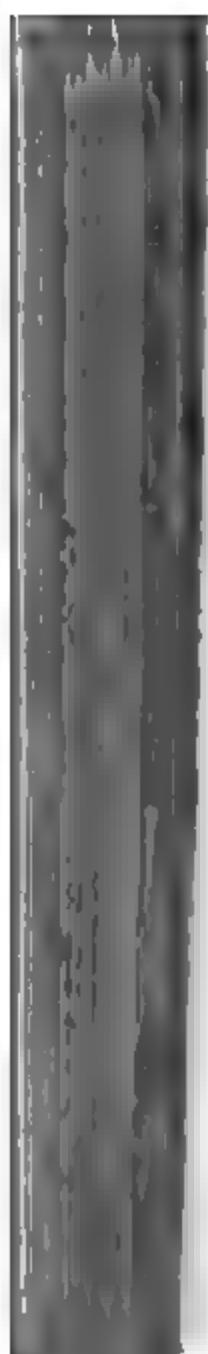
ST. C. CR. Leaves lanceolate, sharply serrated,
smooth beneath. Pockles of the fruit compound
and winged.

SY. *Fagus Castanea*. *Lam. Sp. Pl.* 1416. *Huds.* 422.
Fl. Ind. 213. *Ell.* 213. *Alb.* 211.

Castanea *Ell.* 213. 240.

THE Chestnut is the most stately of all our native trees,
and is commonly a native of the south and western parts of
this island: it appears to be also the most long-lived; for a
specimen known to have been a boundary tree in the time of
King John, still continues to bear fruit at Tortworth,
Gloucestershire, and we have been favoured with its blossoms





[1846]

F A G U S *sylvatica.*
Beech-tree.

MONOECIA Polyandria.

GEN. CHAR. Male, *Cal.* bell-shaped, 5-cleft. *Cor.* none. *Stam.* 5—12. Female, *Cal.* 4-cleft. *Cor.* none. *Styles* 2 or 3, 3-cleft. *Nuts* 2 or 3, invested with the leathery prickly calyx.

SPEC. CHAR. Leaves ovate, obsolete serrated. Prickles of the fruit simple.

SYN. *Fagus sylvatica.* *Linn. Sp. Pl.* 1416. *Sm. Fl. Brit.* 1028. *Huds.* 422. *With.* 444. *Hull.* 213. *Sibth.* 152. *Abbot.* 210.

Fagus. Raii Syn. 439.

THIS handsome tree prefers a rich calcareous soil, forming in many parts of England very fine luxuriant woods, peculiarly dry and pleasant to walk in, and usually affording the botanist several interesting plants under their shade, as the *Monotropa*, *Pyrolæ*, and some rare *Orchideæ*. Grasses do not thrive beneath this tree. The wood is hard, but neither tough, nor lasting in the open air. The Beech makes excellent cut hedges for shelter, as the old leaves remain, though faded, through winter. It blossoms in April or May. The nuts, called Beech Mast, are eaten by hogs. Hill the poet had a project for extracting oil from them, which did not answer.



18.16



Tab. 1. 18. 16. Published by J. S. Edwards, London.

CARPINUS Betulus.

Horn-beam.

NOYDECLA Polymoria.

GEN. CHAR. Male, *Cal.* the scale of a catkin, roundish. Stam. 8—20. Female, *Cal.* toothed. Scales 2. Nuc. of 1 cell, closely invested with the angular cuticle.

SPEC. CHAR. Bractens of the fruit oblong, serrated, *lat.* with two lateral lobes.

SYN. *Carpinus Betulus*. *Lin.* Sp. Pl. 1416. *Sm.* Fl. Br. 1029. *Huds.* 422. *With.* 442. *Hall.* 213. *Engl.* 575.

Quercus alba similis, fructu in umbellulis foliaceis. *Raii* Syn. 451.

THE Horn-beam thrives on a rather meagre clayey damp soil, such as Epping forest and Finchley common, where it abounds, flowering in April. Linnaeus justly observes that the wood is white, very tough, and harder than hawthorn. The tree is of a bushy size, densely branched, and bears cutting, *quercus alba similis, fructu in umbellulis foliaceis* in the north of





from

CORTILUS Avelana

Erp.

HYPERICUM Primula

Gen. Cat. Male. Cal. the size of a catkin, three-
toothed. Cor. none. Stam. 8.

Female. Cal. downy, etc. Cor. none. Styles 2,
the lower shorter, it is cal., clothed with the
feeling numerous hairs.

Spec. Cat. Stemine downy, etc. Leaves roundish,
new-leaved pointed. Young branches hairy.

Spec. Cat. *Avelana*. *Lin. Sp. Pl.* 1417. *Hud.*

Bot. Brit. 364. Bot. 364. Sibth.

Bot. Brit. 364.

C. pinnatus. Bot. Brit. 364.

THE COMMON ERP. is frequent in hedges and copes,
is one of the earliest of our spring blossoms. Its male catkins,
which are nearer to the preceding flowers, arrive at full



[2460]

PINUS sylvestris.

Scotch Fir.

MONOECII *Monadelphica*.

GEN CHAR. Male, Cal. the scale of a catkin, peltate.
 Cor. none. Anthers sessile upon the scale.
 Female, Cal. the scale of a catkin, two-flowered.
 Cor. none. Not winged, of one cell.

SPEC. CHAR. Leaves rigid, in pairs. Young cones
 stalked, recurved. Crest of the anthers very
 small.

SEX. *Pinus sylvestris*. Linn. *Sp. Pl.* 1418. *Sm. Fl.*
Brit. 1031. *Huds.* 423, *With.* 615. *Hull. ed.* 2.
 252. *Lightf.* 587. *Ger. em.* 1356. *Woodr.*
Med. Bot. t. 207. *Lamb. Pin.* 1. t. 1.

P. sylvestris, foliis brevibus glaucis, conis parvis
 albulis. *Ran. Syn.* 442.

THIS well-known tree, of which a wild specimen was brought us by Mr. Borrer, grows plentifully throughout the highlands of Scotland, either scattered or in vast natural forests, and is the only native *Pinus* of Britain. It flowers in May, but the cones are two years in ripening. The uses of the wood, and of the tar, pitch, and turpentine yielded by this tree, in common with most others of its genus, are familiar to every body. Its hardness renders it fit to brave the cold winds of many bleak situations, till more beautiful and valuable plantations can spring up under its shelter; but hence fir woods, in themselves, are associated with ideas of dreariness, as well as of sandy sterility of soil; nor is their green, though perpetual, of an agreeable or cheerful kind, like the stately Spruce of the "Norwegian hills," and alpine forests of Switzerland and Savoy.

The Scotch Fir lives to the age of 400 years or more, and is lofty and straight in its growth. The leaves are linear, acute, in pairs from membranous sheaths. Male catkins yellow, in dense spikes, which afterwards become branches. Pollen copious. Cones ovate, tessellated, tubercled, but not spinous.



Pinus ponderosa L. f. - 18. 18. 18.

12.



